

UMASS/AMHERST



312066016261590



Digitized by the Internet Archive
in 2014

<https://archive.org/details/impactofcasinosg00gami>

MASS. T2.2:IM

THE GAMING STRATEGY GROUP

GOVERNMENT DOCUMENTS
COLLECTION

FEB 27 1998

University of Massachusetts
Depository Copy

*The Impact of Casinos
and Gaming Devices on the
Massachusetts State Lottery*

Final Report

June 28, 1996

HARTFORD • NEW YORK • BOSTON

255 Main Street • Hartford, Connecticut 06106 • 203/549-6770 • FAX 203/293-2674

Executive Summary

Exhibit A: Summary of Projections for Casino/Device Performance

(Revenues, or "win," in millions of 1996 dollars)

To:	Massachusetts Facilities						Other States	Grand Total
	New Bedford	Western Mass.	Raynham	Foxboro	Suffolk	W'land	Subtotal	
Status Quo: Mass. Residents' Spending	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$369.0	\$369.0
Scenario 1: Mass. Residents' Spending Spending from Other States Total Casino & Device Spending	\$405.1 63.1 \$468.2	\$0.0 0.0 \$0.0	\$0.0 0.0 \$0.0	\$0.0 0.0 \$0.0	\$0.0 0.0 \$0.0	\$405.1 63.1 \$468.2	\$530.5 \$935.5 <i>(At Casinos near access)</i>	<i>No recap here</i>
Scenario 2: Mass. Residents' Spending Spending from Other States Total Casino & Device Spending	\$378.3 55.0 \$433.3	\$225.4 205.7 \$431.1	\$0.0 0.0 \$0.0	\$0.0 0.0 \$0.0	\$0.0 0.0 \$0.0	\$603.6 260.8 \$864.4	\$441.8 \$1,045.4 <i>(recap here of western m't follows)</i>	<i>No recap here</i>
Scenario 3: Mass. Residents' Spending Spending from Other States Total Casino & Device Spending	\$378.2 57.8 \$436.0	\$0.0 0.0 \$0.0	\$71.1 5.5 \$76.7	\$71.1 5.5 \$76.7	\$74.4 2.3 \$76.7	\$669.1 73.5 \$742.6	\$444.7 \$1,113.8 <i>(Small & low N/H recap here)</i>	<i>No recap here</i>
Scenario 4: Mass. Residents' Spending Spending from Other States Total Casino & Device Spending	\$353.4 51.9 \$405.3	\$224.7 205.4 \$430.1	\$71.1 5.5 \$76.7	\$71.1 5.5 \$76.7	\$74.4 2.3 \$76.7	\$869.0 273.0 \$1,142.0	\$363.1 \$291.8 \$76.7	\$1,232.1
Scenario 5: Mass. Residents' Spending Spending from Other States Total Casino & Device Spending	\$0.0 0.0 \$0.0	\$0.0 0.0 \$0.0	\$71.5 5.1 \$76.7	\$71.5 5.1 \$76.7	\$74.4 2.3 \$76.7	\$291.8 14.8 \$306.6	\$581.0 \$872.8	\$872.8

Contents

Chapter 1: Introduction

1.1 Overview.....	1
1.2 Framework for Strategic Analysis	<i>Error! Bookmark not defined.</i>
Commercial Games and the Evolution of Gambling Markets.....	6
The Product Portfolio.....	11
1.3 Data and Methodology.....	14
1.4 Organization of This Report.....	16

Chapter 2: Massachusetts State Lottery Commission Performance

2.1 Current Status Games.....	18
2.2 Detailed Analysis	19
Recent Trends.....	20
Monthly Fluctuations.....	22
Instant Tickets.....	22
Pull Tabs.....	23
The Numbers Game.....	24
Megabucks.....	24
Mass Millions.....	25
Mass Cash.....	26
Lotto Category.....	27
Keno.....	27
Summary	28
Long-Term Trends.....	29
Instant Tickets.....	30
Pull Tabs.....	30
Numbers Game.....	30
Lotto Product Category	31
Keno.....	32
Summary	32

Chapter 3: Comparisons with Other States

3.1 General Comparisons	41
All U.S. Lotteries.....	41

Comparable (Mature, Non-Rural) State Lotteries.....	44
Product Contributions to Sales.....	46

3.2 Recent Portfolio Performance.....

All U.S. Lotteries.....	47
Comparable (Mature, Non-Rural) State Lotteries.....	48
Summary.....	50

3.3 Lottery Effectiveness and Efficiency.....

Lottery Effectiveness.....	51
Lottery Efficiency.....	51
Summary.....	52

Chapter 4: Casino Impacts on Traditional Lottery Sales

4.1 Introduction.....

Chapter Structure.....	57
------------------------	----

4.2 Gambling Sales and Revenues: Casinos Compared with Traditional Lotteries.....

Sales and Revenues: The U.S. Lottery and State-Regulated Casino Industry	58
Individual States.....	60
New Jersey Sales and Revenues.....	60
Iowa Sales and Revenues.....	61
Illinois Sales and Revenues.....	62
Colorado Sales and Revenues.....	62
Connecticut Sales and Revenues.....	63
Missouri Sales and Revenues.....	64
Ontario Sales and Revenues.....	64
Sales and Revenues: Lotteries and American Indian Casinos.....	65
Minnesota Lottery Sales and Revenues.....	65
Wisconsin Lottery Sales and Revenues.....	66
Arizona Lottery Sales and Revenues.....	66
Michigan Lottery Sales and Revenues.....	66

4.3 Traditional Lottery Sales Trends, by Game, in Casino Jurisdictions

67	
Total Sales.....	67
Instant Games.....	69
Numbers Games.....	71
Lotto Games.....	73

4.4 Traditional Lottery Sales Trends, by Game, in Selected States

75	
New Jersey, New York, and Pennsylvania.....	75
Illinois and Ohio.....	77
Comparison of Massachusetts and Connecticut.....	80

4.5 Massachusetts Geographic Analysis.....

88	
General Findings.....	88
Specific Findings.....	89

Chapter 5: Device and Combined Impacts on Traditional Lottery Sales

5.1 Introduction.....

90	
Chapter Structure.....	90

5.2 Sales and Revenues: Electronic Gaming Devices Compared with Traditional Lotteries	91
Sales and Revenues: Devices at Commercial Race Tracks.....	91
West Virginia Sales and Revenues.....	91
Sales and Revenues: Lotteries and Widely Distributed Electronic Gaming Devices.....	92
Montana.....	92
Oregon Sales and Revenues.....	92
New Brunswick.....	93
Newfoundland.....	94
Nova Scotia.....	94
Prince Edward Island.....	95
Saskatchewan.....	95
Alberta.....	96
5.3 The Impact of EGDs on Traditional Lottery Sales.....	96
Total Sales.....	96
Instant Games.....	98
Numbers Games.....	99
Lotto Games.....	100
5.4 Sales and Revenues: Combination States.....	101
South Dakota Sales and Revenues.....	101
Louisiana Sales and Revenues.....	102
Rhode Island Sales and Revenues.....	103
Iowa Sales and Revenues.....	103
Manitoba.....	103
Quebec.....	104
5.5 Combination Effects: Impacts of Casinos and EGDs on Traditional Lottery Sales.....	105
Total Sales.....	105
Instant Games.....	106
Numbers Games.....	107
Lotto Sales.....	108
Per Capita Sales in Canadian Jurisdictions.....	109
5.6 Conclusions.....	110
EGD States.....	110
Combination EGD/Casino States.....	111
Per Capita Sales.....	111
Chapter 6: Small Signal (Trend) Analysis	
6.1 Introduction.....	113
Results.....	113
Chapter Structure.....	114
6.2 Methodology	114
Small Signal Analysis.....	115
Application to Lottery Analysis.....	115
6.3 Analysis.....	116
The Effect of Casinos on the Annual Rate of Growth of Lottery Sales	116
The Effect of Electronic Gaming Devices on the Annual Rate of Growth of Lottery Sales.....	120
Conclusions.....	122
Casino Impact.....	122
Electronic Gaming Device Impact.....	122

Combined Impact of Casinos and Electronic Gaming Devices.....	122
---	-----

Chapter 7: Casino Impacts on Traditional Lottery Sales

7.1 Introduction.....	123
------------------------------	------------

7.2 Performance Estimates for Specific Scenarios	128
---	------------

Scenario 1: New Bedford Casino Only	128
Scenario 2: New Bedford + Western Mass. Casinos.....	129
Scenario 3: New Bedford Casino + Devices at Tracks.....	130
Scenario 4: Both Casinos + Devices at Tracks.....	131
Scenario 5: Devices at Tracks Only (No Casinos).....	132

Chapter 8: Impacts on the Massachusetts Lottery and Charitable Games

Chapter 1

Introduction

The Commonwealth of Massachusetts is currently considering a complex set of issues related to legal gambling. Specifically, Massachusetts is evaluating,

1. A proposed land-based casino in New Bedford, as defined in House Bill 5518, to be owned by the Wampanoag Tribe of Gay Head and operated by Carnival Hotels and Casinos, a wholly owned subsidiary of Carnival Cruise Lines,
2. The installation of 700 electronic gaming devices at each of the Commonwealth's four commercial race tracks, as defined in House Bill 5520, and
3. A possible land-based casino in Hampden County, as defined in House Bill 5518.

Each of these proposals would create the prospect of immediate competition for the Massachusetts State Lottery Commission (MSLC). The MSLC has retained The Gaming Strategy Group, Inc. (GSG) to analyze and evaluate the impact of a casino or casinos in Massachusetts and gaming devices at Massachusetts's race tracks, as specified in House Bills 5518 and 5520, on MSLC sales and revenues.

1.1 Overview

Legal gambling is a major industry in the United States as a whole and in Massachusetts in particular. Aggregate wagering (handle) at legal games in the United States exceeded \$482 billion in calendar 1994.¹ Aggregate revenues, or consumer expenditures net of winnings, were approximately \$40 billion.

Approximately \$3.4 billion was wagered in Massachusetts in calendar 1994 (Table 1-1). Consumer spending on Massachusetts legal games was approximately \$1.1 billion (Table 1-2). As these numbers imply, gambling is an important recreational activity for Massachusetts residents. A substantial majority, more than 60%, have gambled within the past six months. Massachusetts residents bet most frequently with the Lottery, but many bet as well at two privately owned and operated horse tracks, two privately owned and operated greyhound tracks, and at charitable bingo games and "Las Vegas" nights. Substantial numbers of Massachusetts residents also spend money at casinos, race tracks, off-track betting facilities, and gaming devices in other states.

¹ This figure includes gambling on deep water ships docking at U.S. ports. This and the following statistics for 1994 are taken from Christiansen/Cummings Associates, Inc. (CCA), "The Gross Annual Wager of the United States in 1994," *International Gaming & Wagering Business*, August 1995, vol. 16, no. 8, pp. 29ff.

Table 1-1 and Table 1-2 provide the following information about gambling in Massachusetts:

- Lottery sales (handle) have grown, but at a declining rate, over the last three years.
- In 1994, the lottery accounted for 81.1% of all consumer spending on gambling in the Commonwealth.
- Pari-mutuel handle grew from 1992 to 1993, due to the successful re-opening of Suffolk Downs (and the less than completely successful re-opening of Foxboro Park), but fell back in 1994. Pari-mutuel betting accounted for only 9.2% of consumer spending on gambling in Massachusetts.
- Wagering on bingo and charitable games has decreased steadily over the last three years. Bingo and charitable games accounted for 9.8% of 1994 consumer spending on gambling in Massachusetts.

Table 1-1
Massachusetts: Gross Wagering (Handle) 1992-1994 and Percentage Change
(\$ Millions)

	1992	1993	1994	Change 1994/1992
Lottery	1860.9	2278.2	2647.0	42.2%
Pari-Mutuels	495.4	545.4	492.1	-0.7%
Bingo	157.3	150.9	141.2	-10.2%
Charitable	84.3	101.2	92.1	9.3%
Total	2,597.9	3,075.7	3,372.4	29.8%

Source: CCA, *International Gaming & Wagering Business Magazine*, August 1995.

Table 1-2
Massachusetts: 1994 Gross Revenues (Consumer Spending)
(\$ Millions)

	Revenues	Percent
Lottery	900.0	81.1%
Pari-Mutuels	101.9	9.2%
Bingo	26.4	2.4%
Charitable	82.1	7.4%
Total	1,110.4	100.0%

Source: CCA, *International Gaming & Wagering Business Magazine*, August 1995.

Table 1-3 provides the following information concerning the Massachusetts State Lottery and its fiscal year 1995 performance relative to the 37 lotteries now operating in the United States:

- The Massachusetts Lottery ranks third among U.S. lotteries in total sales (handle).
- In per capita sales, however, the Massachusetts Lottery ranks first among all U.S. lotteries.
- The Massachusetts Lottery also ranks first for total prizes awarded to consumers.
- The Massachusetts Lottery ties with the District of Columbia for first place among U.S. lotteries in per capita government tax receipts.

Table 1-3
Massachusetts Lottery: Relative Performance – FY 1995

	Rank
Total Sales (\$M)	\$2,792.7 3/37
Per Capita Sales	\$466 1/37
Total Prizes (\$M)	\$1,938.0 1/37
Per Capita Government Profits	\$107 1/37

Source: Fiscal 1995 Lottery Interim Report, TLF Publications

These high rankings are no accident. They are the result of the application by the Massachusetts Lottery of solid business strategies and astute product management policies that other U.S. lotteries have been slower to adopt. For example, the Massachusetts Lottery pioneered the Instant Ticket product management practices of selling multiple games simultaneously and of raising the percentage of sales allocated to prizes.²

But the Massachusetts Lottery, and other Commonwealth gambling industries as well, now confront new competition in the form of casino games.

Although Massachusetts does not currently have commercial casino gaming (it does allow charitable "Las Vegas nights"), its residents have exhibited considerable interest in this form of gambling. The Center for Policy Analysis of the University of Massachusetts, Dartmouth, estimates that 33% of the patrons of Foxwoods, the casino operated by the Mashantucket Pequots in Ledyard, Connecticut, originate in Massachusetts.³ Our recent survey data suggest that Massachusetts residents also constitute a significant portion of Atlantic City visitation, and occasionally visit (and spend money in) casinos elsewhere, including Nevada, the Caribbean, and

2 These business practices (a) introduce product line extensions, and (b) lower the consumer price of mature products, respectively. Both tactics are appropriate in managing a consumer good for which supply and demand are in approximate balance.

3 Clyde W. Barrow and David Borges, "Patron Origination Analysis: Foxwoods Resort Casino," Center for Policy Analysis, University of Massachusetts, Dartmouth, October 1995.

on cruise ships. Approximately 22% of Massachusetts residents have gambled in a casino in the past year. An even larger number are interested in casino games, and indicated they would be likely to visit one in a convenient location.

Massachusetts gambling industries, including the Massachusetts Lottery, are also being affected by the Federal Indian Gaming Regulatory Act of 1988 (IGRA). IGRA's exact meaning is currently the subject of litigation in numerous Federal Courts. Additionally, the Supreme Court of the United States, which in 1995 granted writs of certiorari in cases brought by the Seminole Tribe of Florida against the State of Florida and the Poarch Band of Creek Indians against the State of Alabama arising from IGRA,⁴ ruled in March that Congress does not have the power to abrogate a state's 11th Amendment immunity from lawsuits as authorized by IGRA. Thus, a tribe cannot sue a state in federal court if it believes the state is not negotiating in good faith. Legal impacts of this decision are unclear. There is, as well, the possibility that Congress will revisit the Act. The controversy surrounding gambling on Indian lands may not be finally resolved for years.

For the present, however, IGRA as a practical matter enables Federally recognized tribes to conduct commercially any form of gambling not absolutely prohibited in the State in which tribal land is located. In neighboring Connecticut, the Mashantucket Pequot tribe successfully argued that Connecticut law allowing charitable "Las Vegas night" table games entitled the tribe, under IGRA, to operate commercial casino table games on tribal lands near Ledyard.⁵ Using similar arguments, the Wampanoag Tribe of Gay Head is endeavoring to secure the right to open a commercial casino in New Bedford.

Massachusetts residents and its existing gambling operations would also be affected by the proposed installation of gaming devices at the Commonwealth's four commercial race tracks. Such devices would be a very significant addition to the legal gambling environment of Massachusetts.

The 232,435 slot machines and other gaming devices installed in non-Indian casinos in 1994 accounted for 65% of the non-Indian U.S. casino win, a consumer expenditure of nearly \$9.1

⁴ In the Supreme Court of the United States, October Term, 1994: No. 94-12 Seminole Tribe of Florida, petitioner v. State of Florida, et al., No. 94-35 State of Alabama, et al., petitioners v. Poarch Creek Indians, No. 94-189 Poarch Band of Creek Indians, cross-petitioner v. State of Alabama, et al., No. 94-219 State of Florida and Lawton Chiles, Governor of Florida, et al., cross-petitioners v. Seminole Tribe of Florida.

⁵ The compact between the Mashantucket Pequots and the State of Connecticut was originally restricted to table games. Subsequently this compact was amended to include machine games. Approximately 3,850 gaming devices are currently installed at Foxwoods.

billion.⁶ Moreover, gaming devices are now installed outside casinos in a number of states. In calendar 1994, a total of 53,106 non-casino devices in Louisiana,⁷ Montana, and South Carolina won \$1.06 billion.⁸ Approximately 17,000 video lottery terminals (VLTs) operated by the Oregon, Rhode Island, South Dakota, and West Virginia lotteries won an additional \$468.5 million.⁹ In the aggregate, then, excluding the substantial number of machine games on Indian lands, approximately 70,100 gaming devices won \$1,528.5 billion in the United States in 1994.

Currently, gaming devices are installed at race tracks in five states: West Virginia, Rhode Island, Iowa, Louisiana, and Delaware. In Delaware, Rhode Island, and West Virginia, these machines (video poker) are supervised by the lottery. In Iowa, slot machines¹⁰ are owned and operated by race tracks. In Louisiana, video poker devices are installed at race tracks and OTB facilities (and at truck stops and liquor-licensed establishments) under the supervision of the State Gaming Enforcement Division of the Department of Public Safety and Corrections. Regardless of whether gaming devices at race tracks are operated by tracks directly or as part of lotteries, consumer acceptance has been overwhelmingly positive.

As noted, participation in bingo games in Massachusetts, which operate under the aegis of the MSLC, has eroded over the last three years. Bingo currently accounts for just 2.4% of consumer spending on gambling in the Commonwealth (Table 1-2).

As also noted, charitable gambling ("Las Vegas nights"), raffles, and bazaars accounted for 7.4% of 1994 consumer spending on legal gambling in Massachusetts (Table 1-2). To date, "Las Vegas" nights have been the only legal table gaming in Massachusetts.

6 CCA, op. cit., *International Gaming & Wagering Business* magazine, August 1995. Table 8.

7 Louisiana's video poker industry has been plagued by scandal. In May 1995 a Federal grand jury indicted members of organized crime families for skimming profits from Louisiana video poker machines. Fourteen people, including the reputed boss of the New Orleans Marcello family, have pleaded guilty in the case. More recently an FBI investigation found that prominent state legislators accepted bribes from video poker lobbyists to bottle up legislation to allow the public to vote on whether gambling should continue in Louisiana. A July 1995 survey by Southern Media & Opinion Research found that 58.8% of Louisiana residents would oppose gambling in their parish; only 35% would favor it.

8 CCA, op. cit., *International Gaming & Wagering Business* magazine, August 1995. Table 10. This figure is understated in that the absence of a central computer system to monitor and control Montana gaming devices makes it likely that the state's reported win of \$200.3 million is less than the actual win; perhaps \$24 million was also won by devices on Maryland's Eastern Shore.

9 That is, video lottery terminals retained this amount on aggregate calendar 1994 sales (or handle) of \$4,453.7 billion. Video poker machines at race tracks in these states are included in these totals.

10 But not video poker machines or video machines of any type, which are prohibited by law from the race tracks (but not from Iowa's riverboat casinos).

Severally or in combination, casinos in New Bedford and Hampden County and gaming devices at race tracks would have impacts on the people of Massachusetts, on existing Massachusetts gambling operations including the Massachusetts Lottery, on the Commonwealth's gambling tax receipts, and on net revenues from charitable bingo and "Las Vegas night" games. What will these impacts be, and how should the MSLC respond?

1.2 Framework for Strategic Analysis

In this section, we present two basic conceptual frameworks that together provide a basis for understanding recent trends in the sales of each Massachusetts Lottery game. These concepts also provide a solid structural basis for an evaluation of how new forms of gambling would affect the revenues of lottery games and charitable gambling activities currently available in Massachusetts. The two conceptual frameworks are:

1. Commercial Games and the Evolution of Gambling Markets
2. The Product Portfolio

Commercial Games and the Evolution of Gambling Markets

Gambling games, unlike many "hard" consumer goods such as men's hats or soft drinks, but like many other leisure pastimes such as movies or television, are self-reinforcing activities that satisfy consumer needs (or desires) in the act of consumption. An understanding of the nature of commercial games and the characteristic evolution of gambling markets forms an essential part of the framework of our analysis of lottery sales in Massachusetts.

Many tangible consumer products have well-established product life cycles, typically moving through distinct stages of introduction, growth, maturity, and temporary or permanent decline. Men's hats, for example, move in and out of fashion: their sales were high in the Thirties and Forties (when their use was influenced by fashion in addition to their value as protection against sun or rain), and markedly lower in the Sixties and Seventies (when fashion ceased to be a reason for wearing one).

In contrast to tangible consumer goods, many leisure pastimes, which may be as intangible as the hope that one will win a hundred million dollars, may endure through periods of great social or economic change. Movies and more recently home television are examples: distribution

channels multiply and restructure film markets, but the consumption of Hollywood movies has increased through good economic times and bad since the invention of feature films in the second decade of the century. Television sets were purchased at explosive rates following their commercial introduction in the Postwar period, eventually penetrating 98 percent of all households. Despite its near-universal adoption, television viewing, like movie consumption, shows no signs of decline.

Many gambling games (and non-gambling games such as checkers and chess) are examples par excellence of enduring leisure pastimes. Games of this nature are reinforcing activities that can perpetuate themselves in cultures for generations and even centuries. Roulette has been in commercial use in essentially its modern form since the 1700s; the family of card games of which blackjack and baccarat are members is of approximately the same vintage; and dice games (of which craps is the most commercially significant current example), horse racing, and lotteries are found throughout recorded Western history.

Another distinction between gambling games and many tangible consumer products is that popular ones appear to be extremely difficult to invent. Modern lotteries, and to a much lesser degree casinos and pari-mutuel sports, have in recent decades succeeded in developing new, commercially viable products, but even in these cases the greatest success has been achieved in transplanting traditional games from other cultures to the United States; lotto and keno are examples. Whatever their origin, and whether they are used for commercial gambling or not, popular games seem to perpetuate themselves over long periods of time through incompletely understood processes of psychological and emotional reinforcement. These games are feedback mechanisms, in which participation (the act of playing the game) satisfies consumer wants, and in doing so reinforces and perpetuates the activity.

Commercial gambling games differ, however, from other leisure pastimes in one important respect: historically in this country (and in many other countries as well), they have been prohibited for long periods of time, despite the fact that Americans since Colonial days have demonstrated relatively high propensities to engage in gambling. The combination of prohibition with the American propensity to gamble produces some predictable patterns in the consumption of gambling and in the market for gambling games.

Prohibition has meant that in most jurisdictions, for most of American history, most forms of gambling have not been legally available. Broadly speaking, American prohibitions against gambling have waxed and waned in cycles specific to particular games: lotteries were common in the Colonial period because the Colonies, lacking effective powers of taxation or any

significant banking system, resorted to them as a means of financing public works, including roads, bridges, schools, and even churches. Anti-gambling laws were tightened in the early 1800s, but then loosened somewhat along the expanding Western frontier, where legal constraints on behavior generally tended to be lax.

The mid-19th century also saw a resurgence of lotteries, bookmaking, and casino gambling in the East and Midwest; but these activities were then curtailed by Federal and state prohibitions enacted in the Reform movement that followed Gilded Age excesses. Gambling prohibitions were again relaxed during the Great Depression, as bankrupt state governments turned to gambling (generally in the form of pari-mutuel betting) as a source of direct tax revenues. The process slowed in the decades following World War II, then accelerated in the 1980s. During the 1990s, Americans consented to the most widespread and general repeal of gambling prohibitions in their history.

If the availability of gambling has been variable in American history, the relatively high propensity of Americans to gamble has been a constant. This fact, coupled with the alternating promotion and prohibition of gambling, has produced a common, recurring pattern in the evolution of American gambling markets. That pattern consists of three stages: *explosive growth*, as commercial games are legalized and introduced into markets that are grossly undersupplied; *maturity*, as supply and demand for a particular game come into balance, which may continue for many years; and *contraction*, when prohibitions are re-enacted or more popular competing games are introduced.

Examples of the first of these stages include:

- The explosive growth of pari-mutuel sports in the 1930s, when racing had a monopoly (joined by jai alai in Florida) on legal gambling in most jurisdictions and was thus able to exploit American propensities to gamble free from legal competition;
- The equally explosive growth of casino gambling in Atlantic City between 1978 and 1985, when Atlantic City enjoyed a monopoly on casino games in the East;
- The explosive growth of OTB in New York and Connecticut in the mid-1970s, when this form of gambling was introduced into markets filled with horseplayers and poorly supplied with other gambling opportunities; and
- The rapid growth first of instant games, then numbers games, and finally lotto as State lotteries successfully introduced these games in the 1970s and 1980s.

Many other examples might be cited. Note, however, that unattractive or inaccessible gambling games (or products) typically fail even in poorly supplied markets. Examples include

the "passive" lottery games first introduced in New Hampshire and New York in the 1960s, and the remote, "sawdust joint" gambling halls in Las Vegas prior to its development as a true "destination resort" in the decades following the end of the Second World War.

In all of these cases, a period of explosive growth was followed by relatively stable levels of gambling as supply and demand came into balance in particular markets following legalization. The market for live (on-track or at-the-fronton) pari-mutuel sports had matured in most states by the 1970s. The market for the gambling opportunities provided by Atlantic City casinos matured in the Spring of 1989, as supply and demand came into balance in a market which many in the industry had assumed would grow at double-digit rates indefinitely.¹¹ Off-track betting in New York and Connecticut matured in the early 1980s. More recently, many state lotteries have seen their sales (gross wagering) stabilize after more than a decade of the steady expansion of new markets for these highly popular commercial games.

Wagering volumes in maturing markets tend toward stability. However, some forms of gambling, most notably pari-mutuels and some lottery products, have come under competitive pressures from easier, or more satisfying, new legal wagering opportunities. Pari-mutuel industries in particular, with a long "learning curve" and great demands on novice consumers, have found the relaxation of gambling prohibitions a very difficult experience.

But pari-mutuel sports are by no means unique in this regard. For example, the introduction of casino games into lottery markets appears to have suppressed sales of traditional lottery games. It appears that casino gambling in general, and video poker and slot machines in particular, satisfy the gambling appetites of many Americans to the competitive disadvantage of other forms of gambling.

Causes of Decline in Demand for Gambling Games. Demand for a consumer good or service may decline for a number of different reasons. Three factors especially relevant to gambling industries are new product substitution, shifts in consumer needs and/or attitudes, and changes in consumer expectations wrought by the evolution of the leisure economy.

The emergence of substitute products (new competition) can cause demand for older products to decline. As noted, the geographic expansion of casinos and riverboats and the development of commercial American Indian gambling have had an especially strong impact on pari-mutuel betting throughout the United States. Lottery sales, too, following years of double-digit growth

¹¹ Growth in Atlantic City win has resumed in the last two years following the relaxation of significant statutory and regulatory constraints on casino operations; these improvements are perceived by consumers as product enhancements.

in the 1980s, leveled off in 1990 and 1991 as markets for traditional game menus became fully supplied and consumers were increasingly exposed to casino table and machine games. And besides the greater number of gambling activities available today, there are more alternative sources of entertainment, in general, than there were even ten years ago. In other words, there is far more competition for the consumer entertainment dollar.

Shifts in consumer attitudes caused by cultural or sociological change can also reduce demand for a good or service. A widely remarked upon current example is tobacco: cigarette smoking, widespread among American adults in the early and middle decades of the century, declined precipitously among middle-class consumers who entered adulthood in the 1970s and 1980s. The decline followed a determination by the Surgeon General that cigarettes cause lung cancer and other life-threatening illnesses and the concurrent evolution of a health-conscious "workout culture" manifested by the explosive growth of the running shoe and health club industries. Laws prohibiting smoking on airlines and in many public places are statutory expressions of this wholesale shift in consumer attitudes towards a once-accepted form of behavior.

Changes in consumer expectations wrought by the evolution of the leisure economy can reduce demand for a good or service. With regard to lotteries, the proliferation of large lotto jackpots and a plethora of non-lottery multi-million dollar sweepstakes have eroded the former lure of a \$2 million or \$3 million prize. The term *jackpot fatigue* has been used to refer to the diminished ability of a (relatively) small single-digit million dollar jackpot to generate consumer interest and to motivate the purchase of a lottery ticket. No form of gambling, and perhaps no leisure industry, is immune from the effects of changing consumer attitudes.

The inherent instability of consumers' desires and expectations is particularly great in the entertainment industries, where consumer expectations are a moving target. Entertainment that knocked yesterday's socks off provokes today's yawns with disturbing frequency, even as it further stimulates consumer appetites for fun and innovation. Gambling businesses that add general entertainment to their commercial games have to accept the new burden of meeting the rising, shifting, inherently unstable expectations consumers have for activities that entertain. Lotteries that offer television game shows and casinos that provide non-gaming entertainment are examples of gambling businesses that are, consciously or not, assuming this burden.

These general considerations have important implications for the future of traditional lottery games in Massachusetts. As noted, the Massachusetts Lottery currently ranks #1 among all U.S. lotteries in per capita sales and #1 in per capita government profits (Table 1-3). The high level of

per capita spending on the Massachusetts lottery indicated by these rankings suggests that the Massachusetts market may contain less headroom than others, in the form of unsupplied demand, for its current games. That is, consumer demand for *traditional* lottery games may well be nearly saturated.

While persuasive advertising and effective product portfolio management may enable the Massachusetts Lottery to affect some sales growth in the future, there is no guarantee. And should the Massachusetts market for existing lottery games indeed prove to be saturated, the Lottery's sales, revenues, and profits are vulnerable to competition from the casino table and machine games that are highly attractive to Massachusetts residents. In short, there is good reason for concern that the substantial government revenues currently being generated from the Massachusetts Lottery, amounting to \$639.3 million in 1995, might be reduced if casino gaming is made commercially available in the Commonwealth.

The Product Portfolio

The second business concept of our framework for strategic analysis is the product portfolio. Given that products and industries may proceed through a series of stages that culminates in decreased demand for what was once an innovation,¹² the astute business enterprise changes and/or broadens its offerings to the public on a regular basis.

The Coca-Cola Company, for instance, despite its ownership of an enduringly popular soft drink, has not staked its continuing existence on the hope that sales of Coca-Cola will continue to grow. Coca-Cola has extended its product offerings to numerous other cola and non-cola soft drinks (with and without sugar, with and without caffeine), fast food outlets, and, at one point, movies (by acquiring Columbia Pictures).¹³ A competitor, PepsiCo, has similarly broadened its

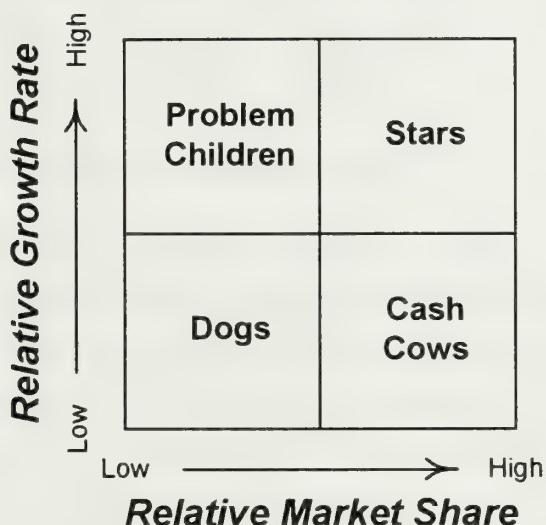
¹² This statement does not hold for *all* products and industries. Demand for staples--water, food, clothing, energy--never declines below subsistence levels; as Keynes so elegantly observed, the supply of these requirements was until the present century the principal engine of virtually all economies. Demand for the major forms of 20th Century commercial entertainment, including movies, television, spectator sports, American pop music, theme parks and casinos, has not thus far been observed to decline and is apparently constrained only by waking hours and disposable incomes. As Keynes foresaw in the century's early decades, the supply of this perhaps inexhaustible demand is replacing the supply of staple requirements as the principal engine of post-industrial economies. Consumption patterns of food and clothing bear little relation to the consumption of intangibles like movies, music and games. However, demand for various *forms* of staples, ranging from bottled water to clothing styles to types of foods, and various *forms* of entertainment, does proceed through the described process.

¹³ The Coca-Cola Company acquired Columbia Pictures Industries for \$750 million in 1982; currently Columbia is owned by Sony.

product portfolio in an attempt to capitalize on its corporate strengths of distribution and advertising know-how for frequently-purchased consumer non-durable goods.

A convenient way of relating the concept of product portfolio to the more general concept of the supply and demand for goods and services has been developed by the Boston Consulting Group (Figure 1).

Figure 1
Product Portfolio Matrix



Market growth rate, on the vertical axis, indicates the growth rate of marketplace demand. A high growth rate often characterizes gambling products in the introductory or growth stage of the evolution of gambling markets. Examples of such explosive growth in consumer spending on newly available forms of gambling include Atlantic City between 1979 and 1989, video lottery terminals (VLTs) in South Dakota following their introduction in 1989; and riverboat gaming in Mississippi following the opening of the first Tunica casino in 1993. These high initial growth rates are a consequence of market conditions in which supply has been limited relative to demand.¹⁴

A low growth rate is generally associated with products in the maturity or decline stages of product or market evolution. Examples are the daily numbers game and the pari-mutuel sports. In some cases, low growth results from the market's being fully supplied. Alternatively, low growth rates are often associated with frequently-purchased non-durable consumer goods, as

¹⁴ There are a number of important exceptions, including the very slow growth of state lottery games in the years 1964-1970 and, more recently, the introduction of pari-mutuel betting in Texas following the legalization of this form of gambling in that state in 1985.

buyers increasingly demand innovative product enhancements and modifications. Of course, low growth can also be exhibited by new products for which there is limited demand, such as the passive games offered in the early years of State lotteries.

The horizontal axis of Figure 1 is relative market share, the product's or industry's market share relative to that of the competition. This dimension thus serves as a measure of the product's *relative strength* in that particular market.

The "growth-share" matrix is divided into four cells, each typical of a kind or class of product. "Problem children" are products with low market shares in high growth industries. Many products start off as problem children, particularly when a company tries to enter a high-growth market in which there is already a market leader. This is, however, not generally the case for legal gambling products which are already in demand.

If a problem child becomes successful, it becomes a "star" -- the market leader in a high growth market. Examples of stars in the recent-day American gambling industry are video lottery terminals in South Dakota, the Foxwoods Casino in Ledyard, Connecticut, and riverboat gambling along in Mississippi.¹⁵ With respect to gambling, stars are typically created in markets that are grossly undersupplied with products that are in great demand.

Stars are generally profitable and can ultimately become "cash cows." Cash cows are products that have large market shares in slow growth industries. Cash cows can generate profits for a long period of time--but only if they are well-managed from a business perspective. Most states' lotto games matured into this position, and have remained there for years.

Finally, "dogs" are those products that have weak market shares in low growth industries. They typically generate low profits, although they may be managed to throw off some cash. In general, live pari-mutuel racing in the United States is such a low growth industry, although there are some exceptionally well-managed race tracks which continue to be highly profitable.

In general, well-managed business enterprises recognize that product portfolios cannot be static if profit maintenance, let alone growth, is the goal. Leisure businesses especially must constantly revamp product offerings and respond quickly to changes in what is now a very dynamic consumer environment. New product alternatives must be evaluated and introduced, so that sales levels are maintained rather than eroded by competitive efforts coupled with consumer

¹⁵ Supply and demand for VLTs in South Dakota and casino games in Mississippi now appear to be in approximate balance.

indifference to more mature products. The business must also remain competitive in advertising, promotion, and, where leisure is concerned, the quality of the experience provided.

With regard to state-operated and/or regulated gambling, however, the necessity to act as an entrepreneur (if the state wishes to increase or even maintain sales) must be tempered by consideration of the appropriate role of the state with respect to providing gambling opportunities for its citizens. In addition, the institutional framework of state operations tends to reduce flexibility and responsiveness to market conditions. Given these conflicts between entrepreneurial action and public responsibilities, state agencies generating revenues via gambling often have difficulty adapting to the marketplace. These difficulties tend to exacerbate reductions in revenues from mature and declining gambling products.

The concepts of market evolution and the product portfolio are used as underlying bases for our qualitative assessment of the current state of lottery game sales in Massachusetts, our evaluation of the revenue potential of casinos and electronic gambling devices, and our projections of the impact of new gambling alternatives on lottery and charitable gambling revenues. The application of these concepts enables us to explain why such trends occur, and thus to develop the projections presented in the following chapters.

1.3 *Data and Methodology*

In conducting our analyses for this report, we have used the following key types of inputs and/or methodologies:

1. *Gaming performance data* -- We have developed and maintain a comprehensive state-by-state gaming performance database consisting of reported statistics and GSG estimates for all forms of gaming. We have drawn heavily on this base of knowledge to execute this study efficiently.
2. *Public and private financial and capital investment statistics* -- We have gathered and analyzed financial data from participants in all segments of the legal gambling industries. The norms developed in these analyses have provided benchmarks by which to measure their performance in Massachusetts and have allowed us accurately to fill in holes in available data.
3. *Consumer market research* -- We have found that it is critical to obtain the input of gambling consumers and the general population in the assessment of the impacts of new

gambling ventures. Consumer research has been an integral part of the studies conducted by all four GSG principals for many years. We have used our established data base regarding participation in various types of existing games and interest in new gaming forms to assess the results of the Massachusetts consumer survey conducted for this study.

4. *Gaming performance and impact methodology* -- We have employed our basic analytical methodology, developed over the course of conducting more than one hundred feasibility and forecasting studies in all segments of the gambling industry, to help evaluate the impact of the new gambling options (proposed by HB 5518 and HB 5520). Steps included in the process were:

- Identification of the appropriate "draw/market" areas for the two proposed casinos and the four proposed pari-mutuel slot facilities. Each type of gaming facility has a different market area; for example, electronic gaming devices confined to pari-mutuel facilities draw from closer-in areas than casinos offering the full spectrum of table and machine gambling games. For each game/facility combination, GSG has developed a series of relevant market area segments.
- Determination of the population and income of the identified market areas.
- Assessment of differential attendance and consumer spending for each market area. These differ depending on a variety of factors, including distance from the facility, competition, topography, road system, traffic patterns, income, population, and popularity of the particular game. Estimates for Massachusetts were developed based on analogous game/market performance data from GSG's database (described, with regard to casinos and gaming devices, in Appendix A), previous studies, and our consumer research in Massachusetts.

5. *Development of a computer model* incorporating all of the above factors.

1.4 Organization of This Report

This preliminary report includes seven additional chapters which together address the requirements specified in the RFP.

Requirement 2.2.1

MSLC Performance and Comparative Evaluation

Chapter 2 evaluates the performance of the Lottery's current games. The performance of charitable gambling in the Commonwealth is evaluated in our companion report, *Analysis of Charitable Gaming in Massachusetts*.

Chapter 3 compares the performance of the Massachusetts Lottery to other state lotteries.

Requirement 2.2.2

Existing Casinos/Electronic Gambling Device Impact

Chapter 4 analyzes the sales trends in all American states and Canadian provinces that have both lotteries and casino gambling. Relevant jurisdictions are:

- Jurisdictions with state-regulated (or province-regulated) casino gambling: Colorado, Illinois, Iowa, Missouri, New Jersey, and Ontario, and
- Jurisdictions where Native American Indian Tribes have compacts with the state to operate casinos: Arizona, Connecticut, Michigan, Minnesota, and Wisconsin.

Chapter 5 analyzes sales trends in all North American jurisdictions that have both lotteries and electronic gaming devices.

- Relevant jurisdictions are the states of West Virginia, Montana, and Oregon, and the provinces of New Brunswick, Newfoundland, Nova Scotia, Prince Edward Island, Alberta, and Saskatchewan.

Chapter 5 also analyzes sales trends in "combination jurisdictions," i.e., states and provinces that have both casinos and electronic gaming devices in addition to the lottery.

- Relevant jurisdictions are the states of South Dakota, Rhode Island, and Louisiana, and the provinces of Manitoba and Quebec.

Chapter 6 analyzes sales data across all lotteries to identify and quantify trends for which there are inadequate control groups of “comparable states.”

Requirement 2.2.3

Estimated Size and Scope of Proposed Gambling

Chapter 7 develops estimates for the revenues that will likely be generated by the proposed new gambling options under five specific scenarios:

1. Land-based casino in New Bedford only.
2. Land-based casino in New Bedford, plus 700 electronic gambling devices at each of the four commercial race tracks.
3. Land-based casinos in New Bedford and Hampden County, plus 700 electronic gambling devices at each of the four race tracks.
4. Land-based casinos in New Bedford and Hampden County.
5. 700 electronic gambling devices at each of the four race tracks (but no full-scale casinos).

Requirement 2.2.4

Evaluation of Impacts upon the MSLC

Chapter 8 presents an impact matrix for the five scenarios. This matrix has been tested and reviewed for reasonableness.

Analyses and conclusions in this report are based upon the aggregate results from our consumer survey and upon our findings regarding the experience in other states.

Chapter 2

*Massachusetts State Lottery
Commission Performance*

2.1 Current Status Games

This chapter evaluates the performance of the Massachusetts State Lottery's current games.

The Massachusetts Lottery currently offers seven different games¹⁶: Instant Tickets (introduced in 1974), the Daily Numbers Game (introduced in 1976), Megabucks (1982), Mass Millions (1987), Mass Cash (1991), Pull Tabs (1992), and Keno (1993).

Lottery tickets are sold by a network of approximately 8,100 retail agents. About 6,900 of these are on-line agents who sell the Numbers game, the three lotto family games (Megabucks, Mass Millions, and Mass Cash), and Instant Game tickets. Also, Keno is sold in 1,297 establishments, and Pull Tab tickets are sold in 585 bars and taverns.

Calendar 1995 sales, by game and in total, were:

**Table 2-1
1995 Total Game Sales**

Instant	\$1,814,724,156
Pull Tabs	\$4,904,455
Numbers	\$395,769,908
Megabucks	\$106,762,088
Mass Millions	\$97,487,078
Mass Cash	\$79,691,497
Keno	\$348,131,416
Total	\$2,847,470,598

Approximately fifty percent of Daily Numbers Game and lotto sales revenues and about seventy percent of Instant Ticket and Pull Tab sales are returned to players in the form of winnings.

Foremost among the lottery's expenses are commissions to its agents, which total about 5.9 percent of sales. Commissions consist of a straight five percent commission on sales plus

¹⁶ Lottery games are generally classified as "on-line" games or "off-line" games. On-line games (lotto, Daily Numbers Game, and Keno) are sold through a network of computer terminals installed at retail locations. These terminals are connected to a main data processing center via dedicated telephone lines. Thus, real time up-to-the-minute wagering totals are available. Instant Tickets and Pull Tabs are off-line games, since sales of these products do not require an on-line terminal system.

bonuses and redemptions amounting to about 0.9 percent. The lottery's 8,100 retail agents averaged more than \$20,000 per year in commissions. Other lottery expenses are purchases of ticket stock, the operation of the on-line system for the three lotto family games, Keno, and the Numbers Game, and telecommunications. The lottery's advertising budget, which was \$11.6 million in fiscal year 1993, was reduced to \$6.0 million in FY 1994, and to \$3.2 million in FY 1995. Advertising expenditures in FY 1996 were limited to \$400,000.

After deducting agent commissions and other expenses, net profit, which directly benefits the Commonwealth's 351 cities and towns, totaled \$641.8 million in Fiscal 1995. The lottery is by far the largest contributor to government revenues of all the legal gambling activities of Massachusetts.

2.2 Detailed Analysis

This chapter analyzes the sales trends of each Massachusetts lottery game. First, we assess the recent sales history of each game. Shifts in the economic climate and changes in tactical or strategic management of the games can and do contribute to short-term fluctuations in sales; these fluctuations are best analyzed by examining recent sales, on a month-to-month basis.

Next, we evaluate these short-term fluctuations against longer-term sales results. For the purposes of our analysis, we examine lottery sales trends since fiscal year 1987, the year the Massachusetts Lottery's current game portfolio was established. Prior to FY 1987, the lottery offered a relatively simple portfolio comprising Instant Tickets, the Numbers Game, and Megabucks. In 1987, Mass Millions was introduced as the first *product line extension* -- a product management strategy reflecting the true maturity of the portfolio. Since 1987, multiple line extensions and product repositionings have been (wisely) instituted.

Chapter 3 compares MSLC sales to the sales of similar games in other lottery states to provide additional perspective regarding the Massachusetts Lottery's overall strengths, weaknesses, and performance.

Recent Trends

Total Sales. Table 2-2 shows total Massachusetts lottery sales over the last three calendar years.¹⁷ At first glance, sales appear to be healthy, having grown 12.9% in 1994 and 9.9% in 1995. But this aggregate analysis is deceptive, since it masks the different trends that characterize the different lottery games.

Table 2-2
Total Lottery Sales 1993 - 1995

Year	Total Sales	Change
1993	\$2,295,157,162 ^e	
1994	\$2,591,816,879	+12.9%
1995	\$2,847,460,700	+9.9%

Source: MSLC,
^e includes estimates for Pull Tab sales in
first quarter 1993

Sales by Game. Table 2-3, which displays sales by game for the last three calendar years, shows that in 1995, five of the seven lottery games had decreasing sales. Only Instant Tickets (+9.0%) and Keno (+87.8%), the product in the earliest stage of its life cycle, grew sales in 1994. Importantly, all three games in the lotto product category lost sales.

These sales trends were not simple continuations of trends exhibited the previous year. Instant Ticket sales increased 13.5% in 1994, so 1995 evidenced a slowing of the rate of growth. Pull Tabs lost sales in both 1994 and 1995. Numbers Game sales decreased 4.2% in 1994; this decline worsened to 7.0% in 1995.

The three products in the lotto category evidenced somewhat comparable trends. Megabucks sales, down 20.5% in 1994, dropped less precipitously (8.9%) in 1995. Similarly, the decline in Mass Cash sales slowed from 11.2% in 1994 to 4.9% in 1995. Mass Millions sales erosion was slightly more constant at -12.5% and -11.5% over the last two years.

¹⁷ Recent sales trends are evaluated on a calendar year basis, allowing us to capture sales data through December 1995. Longer-term trends are evaluated on a fiscal year basis to allow for comparisons with other state lotteries, almost all of which have fiscal years ending on June 30.

Table 2-3
Lottery Sales by Game 1993-1995

Product	1993	1994	Change	1995	Change
Instant	\$1,466,294,913	\$1,664,383,390	+13.5%	\$1,814,724,256	+9.0%
Pull Tab	6,609,000 ^e	5,229,348	-20.9% ^e	4,904,455	-6.2%
Numbers	444,282,806	425,734,221	-4.2%	395,769,908	-7.0%
Megabucks	147,400,235	117,159,871	-20.5%	106,762,090	-8.9%
Mass Millions	125,859,229	110,138,094	-12.5%	97,487,078	-11.5%
Mass Cash	94,366,628	83,809,788	-11.2%	79,691,497	-4.9%
Keno	10,344,351	185,362,167	n/m	348,121,416	+87.8%
Total	2,295,157,162	2,591,816,879	+12.9%	2,847,460,700	+9.9%

Source: MSLC

^e includes estimates for Pull Tab sales in first quarter 1993

n/m: not meaningful, since Keno was only available for three months in 1993

As indicated, Instant Tickets (+13.5% and +9.0% for 1994 and 1995, respectively) and Keno (+87.8% in 1995) were the only two products with sales increases. However, the rate of Instant sales growth was down, and the rate of growth of Keno sales will continue to decrease as Keno enters the maturity stage of its product life cycle. As noted in Chapter 1, the explosive growth of Keno is typical of many new gambling games upon their introduction.

The sales declines suffered by the lotto games and the Numbers Game may also be due, at least in part, to possible "cannibalization" by both rapid draw Keno and by increased competition from the Mashantucket Pequots' Foxwoods casino in Ledyard, Connecticut.

Also, annual reductions in the MSLC's advertising budget have led to decreased promotion of the Numbers Game and the three lotto games. Advertising expenditures for the Numbers Game dropped from \$1.41 million in FY 1993 to \$340,000 in FY 1994; such advertising was totally eliminated in FY 1995. Similarly, advertising for the lotto games dropped from \$3.65 million in FY 1993 to \$1.38 million in FY 1994, and was eliminated in FY 1995. In contrast, Instant Tickets have continued to receive advertising support, although the FY 1993 budget of \$4.98 million was cut to \$2.92 million in FY 1994 and to \$2.80 million in FY 1995. Keno also received advertising support of \$850,000 in FY 1994 and \$400,000 in FY 1995.

In summary, the two products with continued advertising support grew sales over the last two years, but the products that lost advertising support suffered sales declines.

Sales by Product Category. Further light is shed on short-term sales trends by examining product category sales in Table 2-4. The paper category is so highly dominated by Instant Ticket

sales that the trend mirrors the Instant trend of decreasing rate of growth over the last two years. As expected, the lotto product category is the most worrisome short-term problem. Sales dropped 15.4% in 1994 and 8.7% in 1995.

Table 2-4
Product Category Sales 1993-1995

Product	1993	1994	Change	1995	Change
Paper	\$1,472,903,913	\$1,669,612,738	+13.9%	\$1,819,628,711	+9.0%
Numbers	444,282,806	425,734,221	-4.2%	395,769,908	-7.0%
Lotto	367,626,092	311,107,753	-15.4%	283,940,665	-8.7%
Keno		185,362,167		348,121,416	+87.8%
Total	\$2,295,157,162	\$2,591,816,879	+13.8%	\$2,847,460,700	+9.9%

Source: MSLC

Monthly Fluctuations

The broad trends discussed above indicate that five of the seven current Massachusetts lottery products are very mature. That is, demand for these products has been well met, and unsatisfied demand will not induce any further sales growth. Consequently, like other products in the mature phase of the product life cycle, these five games (Numbers, Instant, and the three lotto games) are vulnerable to competition, and it will not be easy to maintain, let alone increase, levels of sales.

To detail product dynamics further, we refer to Table 2-9A through Table 2-9H at the end of this chapter. Table 2-9A represents Instant Ticket sales for each month, and the percentage changes in sales compared with the corresponding month of the previous year, from January 1993 through December 1995. Table 2-9B through Table 2-9H provide the same data for Pull Tabs, the Daily Numbers Game, Megabucks, Mass Millions, Mass Cash, the combined lotto category, and Keno, respectively. Graphs of monthly sales and trend lines are presented below each table.

Instant Tickets

Table 2-9A shows that Instant Ticket sales grew each month (versus the same month in the previous year) from January 1994 through October 1995. The range of increases was 5.3% to 38.7% for 1994, compared with 4.4% to 27.0% for the first ten months of 1995. Interestingly, while 1994 sales increased 13.5% over 1993, sales for the first ten months of 1995 increased 13.0% over the first ten months in 1994. The recent decline in the rate of growth (from +13.5%

in 1994 to +9.0% in 1995) is thus almost entirely the result of sluggish sales in November and December, which may have resulted from the very bad weather in those months.

A regression analysis of monthly Instant Ticket sales from January 1993 through December 1995 shows an upward trend (slope = 1,201,039) per month. This means that *given the status quo*, sales would likely continue to increase at the rate of \$1.2 million per month.

However, the continuation of the upward sales trend is contingent upon the reversal of the sales declines exhibited in November and December of 1995. If these sales decreases signal the start of a long-term sales decline, then the previously increasing slope cannot be extrapolated to future months. To shed light on this issue, we reviewed sales for January and February of 1996. These sales were:

	Monthly Sales	Change 96 vs. 95
January	\$183,947,400	+5.3%
February ^e	\$164,477,806	+19.1%

^e: estimate

January 1996 sales of \$183.9 million rebounded from the December 1995 low of \$139.3 million (+32.1%). And importantly, January 1996 sales increased 5.3% over January 1995 sales. Similarly, February 1996 sales of \$164.5 million continued the rebound: February sales increased 19.1% over February 1995 sales. (The daily rate increased by 15.0%, since February 1996 had 29 days, versus 28 days in February 1995.)

Given rebounding Instant Ticket sales in the first two months of 1996, the results of our regression analysis of monthly Instant Ticket sales and the resulting upward trend suggest that indeed, *given the status quo*, sales would likely continue to increase at the rate of about \$1.2 million per month.

Pull Tabs

Table 2-9B shows that total Pull Tab sales decreased 6.2% in 1995. Eight of twelve months in 1995 showed sales declines compared with the corresponding month in 1994. Monthly trends in 1994 ranged from 6.4% growth to 50.7% decline. Regression of sales from April 1993 yields a slope of -6,561 per month, suggesting that Pull Tab sales would likely continue to decrease at the rate of \$6,561 per month, under current conditions.

The Numbers Game

Table 2-9C shows a clear trend of declining sales for the Numbers Game. Sales slipped all twelve months in 1994, compared with the same month in 1993. The decline ranged from 1.4% to 6.5%, with total annual sales down 4.2% from 1993. The sales erosion intensified in 1995: total sales dropped 7.0%. However, declines in 1995 were more severe in ten of twelve months. For instance, whereas March 1994 sales were down 1.4% over March 1993, March 1995 sales were down 7.6%, and the December drop was 11.6% in 1995 versus (only) 6.5% in 1994.

Given the fact that the decline in the growth of Instant Tickets resulted from low sales in November and December of 1995, we compared Numbers Game sales for the first ten months of 1995 versus the first ten months of 1994. Sales dropped 6.6% in this period, not very different from November and December. The overall slide in sales resulted, therefore, from a trend fairly consistent throughout the entire year.

A regression analysis of sales from January 1993 through December 1995 showed a downward trend (slope = -166,883). Given the status quo, sales would likely continue to decrease at the rate of \$167,000 per month.

Megabucks

Lotto games sales typically exhibit dramatic weekly (and monthly) fluctuations resulting from the size of lotto jackpots: as the jackpot grows, so does handle. So an exceptionally strong sales month in one year is often followed by an apparent sales drop during the comparable month of the subsequent year -- due solely to the absence of a major jackpot in the subsequent year.¹⁸

Table 2-9D provides monthly sales data for Megabucks over the last three years. In fact, double digit year-to-year sales declines occurred every month from February through December 1994. Overall, Megabucks sales fell 20.5% in 1994 compared with 1993. The decline eased in 1995: total sales fell 8.9%. Three months in 1995 (February, April, and June) showed sales increases, but February, April, and June in 1994 were the three months with the largest drops compared with 1993: thus, the 1995 "rebounds" were more easily achieved in these months. Regression analysis showed a downward trend (slope = -158,876) per month.

Megabucks sales were very low in November and December, possibly the result of bad weather. Sales for the first two months of 1996 are shown below. January 1996 sales, which

¹⁸ Thus, while a regression analysis of a healthy lotto game is characterized by a positive slope, indicating increasing sales, the r^2 value is generally relatively small, due to the wide divergence of observed sales from the average trend line.

were about equal to November 1995 sales, were 19.2% below January 1995, but February 1996 sales increased 6.3% over 1995. (Adjusted for the different number of days, the increase was 2.6%).)

	Monthly Sales	Change 96 vs. 95
January	\$7,843,636	-19.2%
February	\$11,122,508	+6.3%

In conclusion, Megabucks sales are gradually eroding, but this erosion was probably artificially exaggerated by the weather from November through January.

Mass Millions

Table 2-9E shows monthly sales for the last three years for Massachusetts' biggest jackpot lotto game. Mass Millions exhibits the typical lotto pattern characterized by sales peaks and valleys. During 1994, sales fluctuations varied from +163.4% (June) to -64.9% (December). And during 1995, fluctuations ranged from +218.9% (September) to -45.6% (December).

Since they are generally caused by large variations in jackpot size, such fluctuations are not worrisome in and of themselves. But note that overall declines of 12.5% and 11.5% occurred in total annual sales in 1994 and 1995, respectively. Regression showed a downward trend (slope = -88,774) per month.

To control for the impact of large jackpots, we also compared sales for the ten "worst" months in each year: this effectively controls the "inflationary" sales impact of big jackpots. Two very large jackpots occurred in 1993; 1994 had one very large and one large jackpot; and 1995 had only one very large jackpot. Comparing the ten "worst" months indicates that 1994 sales, so adjusted, decreased 1.7% from 1993, and 1995 sales dropped 10.5% from 1994.

A final caveat concerns very low Mass Millions sales in December, which may have been related to the bad weather. In fact, sales in January 1996 jumped 70.0% over December 1995 sales. And as shown below, sales for both January and February 1996 increased over the corresponding month in 1995. February's strong sales resulted from the recent \$18.8 million jackpot.

	Monthly Sales	Change 96 vs. 95
January	\$8,388,355	+3.6%
February	\$16,085,584	+207.8%

In summary, Mass Millions sales appear to be decreasing slightly. The decrease, however, is likely not as severe as suggested by the regression analysis.

Mass Cash

Table 2-9F provides monthly sales data for Mass Cash. Such "little lotto" games, with their smaller fixed lump-sum jackpot prizes, are not characterized by the large sales fluctuations that typify pari-mutuel big jackpot games. A healthy cash lotto game's sales trend is similar to that of a healthy numbers game.

Mass Cash sales declined 11.2% in 1994, and sales decreased all twelve months compared with the same month the previous year. Declines were less precipitous during 1995: whereas the 1994 range of decline was 1.3% to 16.3%, monthly trends in 1995 ranged from +0.1% to -12.7%. Overall, sales fell 4.9% in 1995.

The slope of the trend line produced with regression analysis was -58,017 per month.

Again, the effects of weather must be considered. Mass Cash sales were very low in November and especially in December 1995. Sales for January and February 1996 were:

	Monthly Sales	Change 96 vs. 95
January	\$6,369,599	-17.3%
February	\$6,618,148	5.7%

Sales in January 1996 increased 13.7% over December 1995 sales, but they decreased 17.3% from January 1995, while February 1996 sales increased 5.7% over 1995. The recent bad weather apparently had some effect, but it is not a major factor in the negative trend.

In summary, the pattern of decreasing sales over the past three years suggests that Mass Cash sales will likely continue to decline, if the status quo is maintained.

Lotto Category

Given the overlap in the product positioning of the three lotto family games, it is useful to examine sales for the category as a whole. Table 2-9G shows monthly category sales from January 1993 through December 1995. Sales decreased 15.4% from 1993 to 1994. Sales declines, compared with sales in the same month during the previous year, were evidenced *every month* except January 1994. The monthly declines ranged from 44.9% (February) to 1.8% (November).

Sales also dropped 8.7% in 1995. Monthly changes ranged from an increase of 53.0% (September) to a decline of 29.3% (December).

Two regression analyses were conducted on lotto category monthly sales. The first utilized all actual monthly sales values from January 1993 through December 1995, inclusive. The second analysis “smoothed” the data by discounting the huge boosts in sales resulting from the four largest lotto sales months, where high sales were a result of the largest jackpots occurring during the thirty-six month analysis period. “Smoothing” simply entailed substituting sales averaged over a three-month period centered around the jackpot month for actual monthly sales in that jackpot month.¹⁹

The slope of the first analysis (all actual sales values) was -305,757 per month, and the slope of the second analysis of “smoothed” values was -252,752. These values are reasonably similar.²⁰ We used the mean, -\$279,217, as the value by which future monthly sales would likely decrease, given the status quo.²¹

Keno

Table 2-9H displays monthly sales data for Keno since its introduction on September 30, 1993. Sales are typical for the introduction of a new gambling game: explosive growth in 1994 slowed to 87.8% in 1995. The rate of growth will continue to decrease as the game matures. The slope of the trend line over the entire period was +1,199,124.

¹⁹ The “smoothed” months were February 1993, December 1993, June 1994, and September 1995.

²⁰ Although it did not have a major impact on the slope (m), smoothing significantly increased the r^2 value.

²¹ The trend line value of the lotto product category is a more robust indicator of likely future sales than the cumulative trend line slopes, since there appears to be consumer “brand switching” occurring across the three lottery games. That is, sales of each game seem somewhat sensitive to large jackpots of other games.

Keno sales, however, will not likely continue to increase at this rate as the game matures. Thus, we also conducted a regression analysis over the last twelve months. The slope of this trend line was +\$221,460. The MSLC believes the system can support 2,500 Keno retailers, and will gradually increase the number of Keno establishments over the next 18 months. Given the increased distribution, Keno sales would likely continue to increase at the rate of about \$221,460 per month.

Keno sales dropped somewhat during November and December 1995, but as shown below, sales performance in January and February 1996 was excellent. Both months showed strong sales increases over the corresponding month in 1995.

	Monthly Sales	Change 96 vs. 95
January	\$30,978,620	14.3%
February	\$30,898,131	21.3%

Summary

This analysis of recent sales indicates that the Massachusetts Lottery's portfolio consists of five mature products (Instant Tickets, Numbers Game, and three lotto games), one product which has failed to maintain maturity (Pull Tabs), and one product whose explosive growth stage is easing into maturity (Keno). Table 2-5 summarizes the results of the recent sales trends for all the games in the Massachusetts Lottery's current product portfolio.

Despite the fact that five of the games in the Massachusetts Lottery's current product portfolio had declining sales, the combined strength of Instant Tickets and the new Keno game would likely increase total sales at the rate of \$969,938 per month, which translates to \$11.6 million per year. This is, however, only a 0.4% annual increase, and assumes no changes in competition, marketing, or economic conditions from the status quo.

Table 2-5
Regression Analysis Summary:
Monthly Change in Sales by Game

Product	Trend Line Slope
Instant	+1,201,139
Pull Tab	-6,561
Numbers	-166.883
Lotto Games	-279,217
Keno	+221,460
Total (net)	+969,938

Long-Term Trends

To better understand product performance, the short-term fluctuations just discussed are viewed against the background of longer-term sales trends. This analysis begins with FY 1987, when the current Massachusetts lottery product portfolio was structured.

Table 2-6 shows total lottery sales since FY 1987. Sales have increased each year. FY 1991 showed the smallest sales increase (1.4%), but sales rebounded well in FY 1992 (+7.9%)²². Fiscal years 1993, 1994, and 1995 all showed extremely strong sales growth -- especially for a mature lottery state like Massachusetts.

Table 2-6
Total Lottery Sales FY 1987 - FY 1995
(\\$000)

FY	Sales	Change
87	\$1,207,963	
88	1,324,415	9.6%
89	1,447,863	9.3%
90	1,565,174	8.1%
91	1,587,165	1.4%
92	1,713,194	7.9%
93	2,012,472	17.5%
94	2,449,754	21.7%
95	2,793,203	14.0%

²² Although the recession was especially severe in New England, the MSLC's performance was strong nonetheless. National lottery sales increased about 20%, 8%, and 2% in 1989, 1990, and 1991, respectively. The MSLC essentially matched national norms in 1990 and 1991. Additionally, the MSLC was one of only four state lotteries that saw growth in all three of these years.

Again, limiting analysis to total sales masks the different trends exhibited by individual games. In fact, lotto category sales grew 4.5% in fiscal 1988, but slid 8.6% in 1989, suggesting either that (a) the line extension was not well-designed (i.e., not sufficiently differentiated from the first generation product), or (b) the Megabucks game was too stale to retain core users.

Table 2-7 presents sales by game since FY 1987.

Instant Tickets

The MSLC's sales of Instant Tickets have an extraordinarily strong track record. Double-digit sales increases have occurred basically every year since FY 1987. Comparing this game's performance with the trends of all other lottery games shows that Instant Tickets have been and continue to be the major engine of growth for the Lottery as a whole.

Table 2-7
Lottery Game Sales FY 1987 - FY 1995
 (\$000)

FY	Instant	Chng	Pull Tabs	Chng	Number	Chng	Mega bucks	Chng	Mass Millions	Chng	Mass Cash	Chng	Keno	Chng
87	387,961				393,468		412,773		13,761					
88	466,929	20.4%			411,967	4.7%	369,601	-10.5%	75,918	451.7%				
89	613,470	31.4%			427,272	3.7%	311,383	-15.8%	95,738	26.1%				
90	671,598	9.5%			466,715	9.2%	284,129	-8.8%	142,732	49.1%				
91	746,662	11.2%			462,299	-0.9%	242,703	-14.6%	104,438	-26.8%	31,063			
92	895,840	20.0%	1,576		444,611	-3.8%	156,377	-35.6%	116,673	11.7%	98,117	215.9%		
93	1,211,137	35.2%	5,853	271.4%	437,531	-1.6%	153,221	-2.0%	111,199	-4.7%	93,531	-4.7%		
94	1,591,667	31.4%	6,346	8.4%	431,492	-1.4%	125,292	-18.2%	139,503	25.5%	90,291	-3.5%	65,163	
95	1,793,759	12.7%	4,961	-21.8%	414,493	-3.9%	111,728	-10.8%	87,689	-37.1%	81,038	-10.2%	299,535	359.7%

Pull Tabs

Pull Tabs, introduced in FY 1992, showed the expected explosive growth in fiscal 1993. Growth predictably slowed in fiscal 1994. However, FY 1995 sales decreased 21.8%. This product is failing to maintain a healthy position in the lottery's portfolio.

Numbers Game

The Numbers Game showed better than average growth for a mature product from FY 1988 through 1990. Since then, sales have tapered off. In most urban Northeast states, numbers games hold the enviable position of being *culturally ingrained*: the long history of these games has made them relatively immune to the "wear-out" factors that characterize most other frequently-

purchased consumer goods. Such culturally ingrained games are "enduring," as described in Chapter 1. Sales of healthy numbers games typically grow from 1.0% to 3.0% per year. The Massachusetts game outperformed the norm through fiscal 1990. But since 1991, the game's performance has declined, and sales are declining.

Lotto Product Category

The Massachusetts Lottery currently offers a complex assortment of lotto games. Megabucks, the oldest game, had sales declines in fiscal 1988 and 1989. However, these declines must be interpreted in light of the sales of Mass Millions -- a product line extension that was introduced in April 1987. Line extensions are appropriate product management moves to increase the *category* sales of an aging product line. While a line extension boosts category sales, some cannibalization of sales of the first generation product is always to be expected. Table 2-8 shows lotto category sales since fiscal 1987.

In fact, lotto category sales grew 4.5% in fiscal 1988, but slid 8.6% in 1989, suggesting either that (a) the line extension was not well-designed (i.e., not sufficiently differentiated from the first generation product), or (b) the Megabucks game was too stale to retain core users.

Table 2-8
Lotto Category Sales FY 1987 - FY 1995
(\$000)

FY	Sales	Change
87	426,534	
88	445,519	4.5%
89	407,121	-8.6%
90	426,861	4.8%
91	378,204	-11.4%
92	371,167	-1.9%
93	357,951	-3.6%
94	355,086	-0.8%
95	280,455	-21.0%

Reference to the sales trends of each specific game clarifies the issue. Megabucks had last been repositioned in 1983 and 1984. In May 1983, the matrix was changed from 6/30 to 6/36; and in July 1984, a second weekly draw was added. Thus, the 1987 Mass Millions introduction competed against a relatively stale Megabucks game. Also, Megabucks' major product positioning characteristic was a large rolling jackpot. Mass Millions offered a larger jackpot, and

thus cannibalized players who were experiencing "jackpot fatigue," that is, who were no longer motivated by the comparatively smaller jackpots offered by Megabucks.

In March 1991 (late in that fiscal year), the lottery introduced an additional lotto line extension -- Mass Cash. Both Megabucks (new 6/42 matrix) and Mass Millions (new 6/49 matrix) were revamped in March 1991. These tactics arrested the 11.4% decline in category sales in Fiscal 1991. In 1992, 1993, and 1994, category sales (which are key) were relatively stable.

Examining sales of individual games, Mass Millions initially fared well: sales grew 11.7% in fiscal 1993. Mass Cash sales dropped somewhat, but given the complexity of the Massachusetts lotto category, players may have engaged in extraordinarily high trial purchasing early on, looking for their preferred lotto game.

The decline in Megabucks sales worsened to 35.6% in 1992 after slipping 14.6% in 1991. But this is not in and of itself a major problem. The Megabucks game had been stale for some time, yet it still garnered annual sales of \$125 million -- despite competition from Mass Millions. An appropriate management strategy for an aged product is to allow (via a lack of all advertising and promotional support) a gradual erosion of sales as a product's appeal becomes increasingly limited to a loyal but shrinking core user base. In fact, as indicated in our discussion of short-term sales trends, Megabucks appears to be the weakest of the three Massachusetts lotto games.

Keno

Since Keno was introduced in September 1993, only short-term trends are apparent. As stated, the explosive growth that typifies sales of gambling games early in their product life cycle can be expected to abate.

Summary

The Massachusetts Lottery's product portfolio consists of five mature games (Instant Tickets, Numbers Game, and three lotto games), one game that has failed to reach maturity (Pull Tabs), and one game whose explosive growth stage is easing into maturity (Keno). Five of the seven games have had declining sales, but the combined strength of Instant Tickets and the new Keno game have generated total combined sales increases. However, *given the status quo*, the MSLC's future sales would likely increase at the rate of \$11.6 million per year, which is only a 0.4% annual increase. This increase assumes *no* changes in competition, marketing, or economic conditions.

Table 2-9A
Instant Ticket Monthly Sales

Month	1993	1994	Percent Change	1995	Percent Change	Percent Change 1993-95
January	135,614,566	146,364,574	7.9%	174,629,409	19.3%	28.8%
February	101,088,839	108,683,718	7.5%	138,046,823	27.0%	36.6%
March	98,470,546	136,538,553	38.7%	159,181,897	16.6%	61.7%
April	108,579,442	135,624,367	24.9%	150,637,946	11.1%	38.7%
May	116,337,455	140,564,863	20.8%	147,132,066	4.7%	26.5%
June	116,608,672	130,263,961	11.7%	161,031,144	23.6%	38.1%
July	132,147,325	140,798,028	6.5%	147,011,008	4.4%	11.2%
August	123,934,829	133,283,330	7.5%	139,760,884	4.9%	12.8%
September	127,974,724	134,698,461	5.3%	148,631,122	10.3%	16.1%
October	131,954,789	151,486,365	14.8%	169,542,579	11.9%	28.5%
November	122,762,233	141,627,061	15.4%	139,858,154	-1.2%	13.9%
December	150,821,492	164,450,108	9.0%	139,261,223	-15.3%	-7.7%
Annual Totals	1,466,294,913	1,664,383,390	13.5%	1,814,724,256	9.0%	23.8%

Figure 2-2
Line Graph of Instant Ticket Monthly Sales

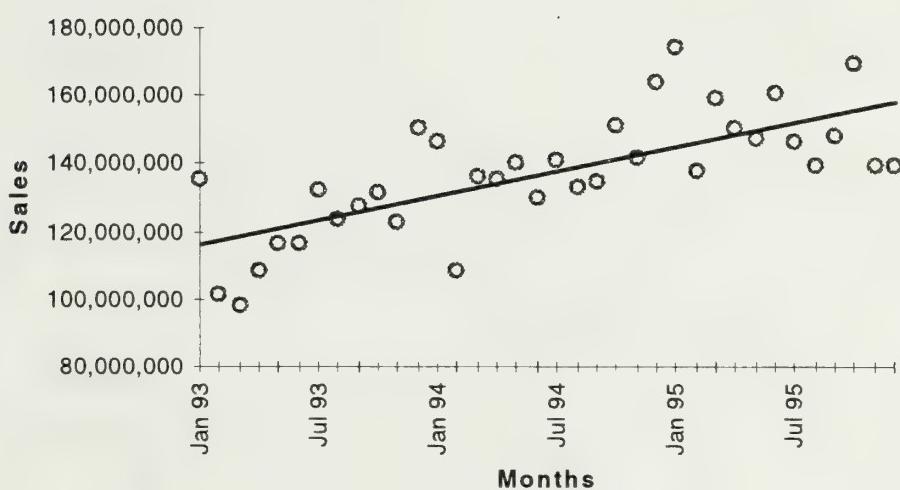


Table 2-9B
Pull Tab Monthly Sales

Month	1993	1994	Percent Change	1995	Percent Change	Percent Change 1993-95
January		545,625	N/A	497,071	-8.9%	N/A
February	N/A	384,634	N/A	315,295	-18.0%	N/A
March	N/A	550,641	N/A	405,024	-26.4%	N/A
April	502,000	395,711	-21.2%	461,108	16.5%	-8.1%
May	540,000	499,258	-7.5%	392,961	-21.3%	-27.2%
June	586,000	491,600	-16.1%	463,010	-5.8%	-21.0%
July	638,000	413,838	-35.1%	496,034	19.9%	-22.3%
August	625,000	391,890	-37.3%	348,637	-11.0%	-44.2%
September	564,000	409,616	-27.4%	355,194	-13.3%	-37.0%
October	418,000	444,588	6.4%	475,238	6.9%	13.7%
November	429,000	304,464	-29.0%	339,511	11.5%	-20.9%
December	807,000	397,483	-50.7%	355,373	-10.6%	-56.0%
Annual Totals	N/A	5,229,348	N/A	4,904,455	-6.2%	N/A
Apr-Dec	5,109,000	3,748,448	-26.6%	3,687,066	-1.6%	-27.8%

Figure 2-3
Line Graph of Pull Tab Monthly Sales

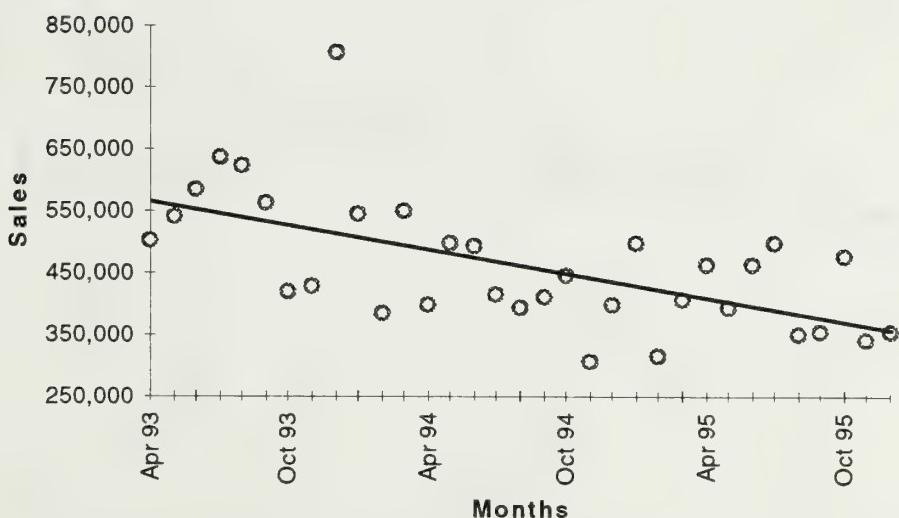


Table 2-9C
Numbers Game Monthly Sales

Month	1993	1994	Percent Change	1995	Percent Change	Percent Change 1993-95
January	37,915,823	36,209,043	-4.5%	36,919,187	2.0%	-2.6%
February	35,114,837	33,175,349	-5.5%	31,275,873	-5.7%	-10.9%
March	39,268,221	38,723,036	-1.4%	35,797,873	-7.6%	-8.8%
April	37,992,631	35,864,622	-5.6%	33,181,132	-7.5%	-12.7%
May	37,974,545	37,080,443	-2.4%	33,751,825	-9.0%	-11.1%
June	36,010,564	33,881,533	-5.9%	32,085,172	-5.3%	-10.9%
July	35,988,435	34,498,581	-4.1%	32,266,253	-6.5%	-10.3%
August	36,652,347	35,856,812	-2.2%	32,691,345	-8.8%	-10.8%
September	35,915,671	34,977,957	-2.6%	31,807,923	-9.1%	-11.4%
October	37,058,271	35,698,544	-3.7%	32,833,400	-8.0%	-11.4%
November	36,663,602	34,479,802	-6.0%	31,951,754	-7.3%	-12.9%
December	37,727,859	35,288,499	-6.5%	31,208,169	-11.6%	-17.3%
Annual Totals	444,282,806	425,734,221	-4.2%	395,769,908	-7.0%	-10.9%

Figure 2-4
Line Graph of Numbers Game Monthly Sales

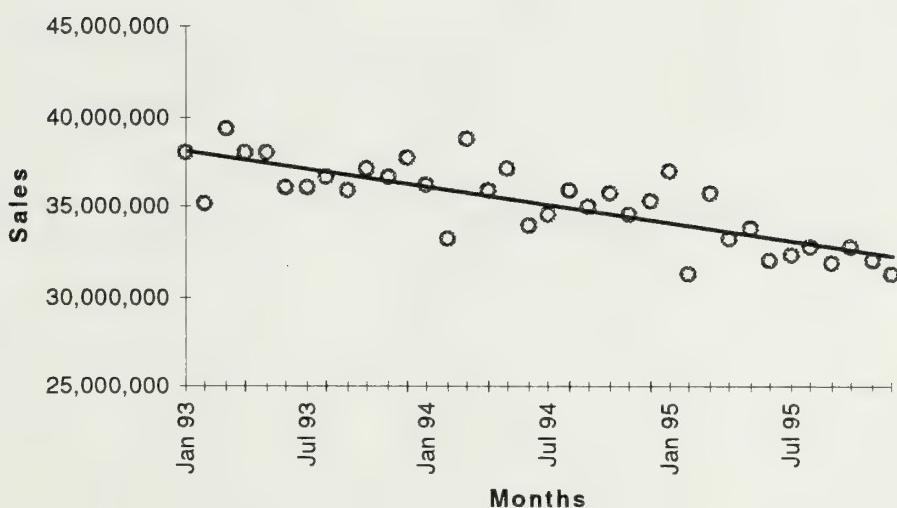


Table 2-9D
Megabucks Monthly Sales

Month	1993	1994	Percent Change	1995	Percent Change	Percent Change 1993-95
January	11,106,522	13,672,542	23.1%	9,707,493	-29.0%	-12.6%
February	16,374,218	9,847,354	-39.9%	10,462,872	6.3%	-36.1%
March	14,680,410	11,124,796	-24.2%	10,215,546	-8.2%	-30.4%
April	12,436,918	9,275,810	-25.4%	9,507,449	2.5%	-23.6%
May	13,109,365	10,370,965	-20.9%	8,549,649	-17.6%	-34.8%
June	14,108,009	8,971,250	-36.4%	10,111,421	12.7%	-28.3%
July	11,023,823	9,232,746	-16.2%	8,544,767	-7.5%	-22.5%
August	11,143,564	9,040,626	-18.9%	8,473,525	-6.3%	-24.0%
September	11,655,756	9,478,788	-18.7%	8,383,600	-11.6%	-28.1%
October	10,394,111	8,809,804	-15.2%	8,184,809	-7.1%	-21.3%
November	10,239,885	8,313,393	-18.8%	7,827,893	-5.8%	-23.6%
December	11,127,653	9,021,796	-18.9%	6,793,065	-24.7%	-39.0%
Annual Totals	147,400,235	117,159,871	-20.5%	106,762,090	-8.9%	-27.6%

Figure 2-5
Line Graph of Megabucks Monthly Sales

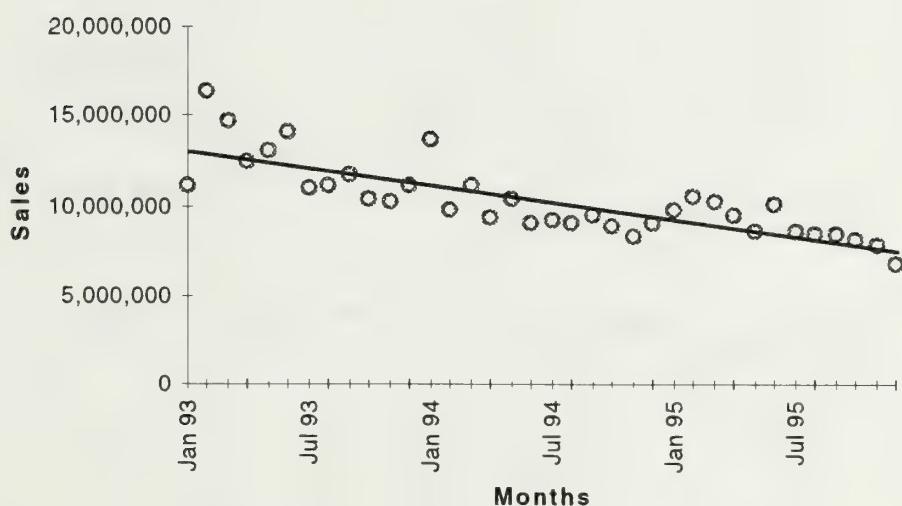


Table 2-9E
Mass Millions Monthly Sales

Month	1993	1994	Percent Change	1995	Percent Change	Percent Change 1993-95
January	7,938,812	7,625,351	-3.9%	8,095,023	6.2%	2.0%
February	22,511,284	9,073,778	-59.7%	5,225,895	-42.4%	-76.8%
March	12,198,078	13,773,577	12.9%	7,752,335	-43.7%	-36.4%
April	7,721,803	6,272,209	-18.8%	7,149,232	14.0%	-7.4%
May	8,396,732	9,883,313	17.7%	6,525,721	-34.0%	-22.3%
June	7,681,971	20,231,456	163.4%	9,737,523	-51.9%	26.8%
July	6,630,770	6,259,543	-5.6%	5,344,025	-14.6%	-19.4%
August	7,225,636	6,600,745	-8.6%	7,338,893	11.2%	1.6%
September	6,551,408	6,157,828	-6.0%	19,637,795	218.9%	199.7%
October	6,018,876	5,904,464	-1.9%	9,232,846	56.4%	53.4%
November	7,064,462	9,266,241	31.2%	6,500,625	-29.8%	-8.0%
December	25,919,397	9,089,589	-64.9%	4,947,164	-45.6%	-80.9%
Annual Totals	125,859,229	110,138,094	-12.5%	97,487,078	-11.5%	-22.5%
10 "Worst" Months	77,428,548	76,133,061	-1.7%	68,111,760	-10.5%	-12.0%

Figure 2-6
Line Graph of Mass Millions Monthly Sales

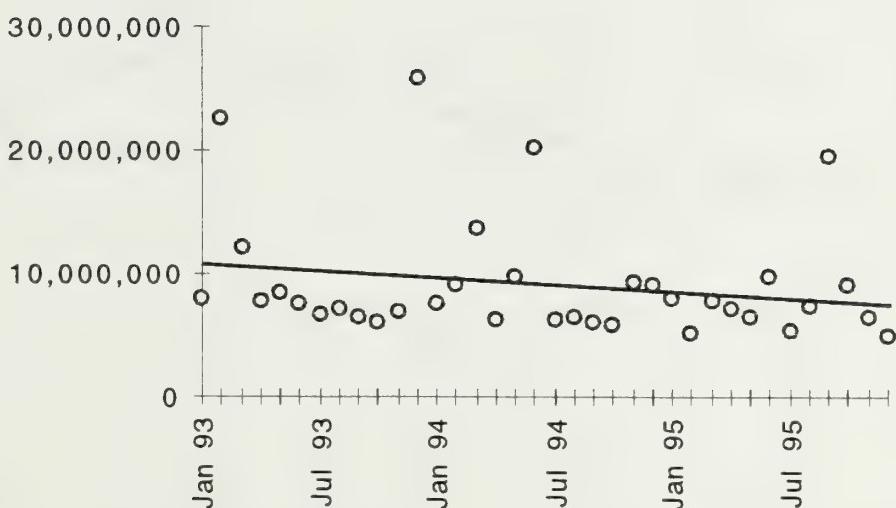


Table 2-9F
Mass Cash Monthly Sales

Month	1993	1994	Percent Change	1995	Percent Change	Percent Change 1993-95
January	8,123,133	8,020,647	-1.3%	7,703,888	-3.9%	-5.2%
February	7,846,441	6,842,270	-12.8%	6,261,475	-8.5%	-20.2%
March	8,895,888	8,112,950	-8.8%	7,678,561	-5.4%	-13.7%
April	8,434,646	7,061,030	-16.3%	6,704,261	-5.1%	-20.5%
May	8,160,377	7,438,891	-8.8%	6,741,438	-9.4%	-17.4%
June	7,942,976	6,765,646	-14.8%	6,738,134	-0.4%	-15.2%
July	7,654,858	6,410,596	-16.3%	6,416,885	0.1%	-16.2%
August	7,607,588	6,601,719	-13.2%	6,661,478	0.9%	-12.4%
September	7,794,657	7,011,682	-10.0%	6,626,448	-5.5%	-15.0%
October	7,489,556	6,806,367	-9.1%	6,552,474	-3.7%	-12.5%
November	7,023,444	6,320,743	-10.0%	6,003,800	-5.0%	-14.5%
December	7,393,065	6,417,248	-13.2%	5,602,655	-12.7%	-24.2%
Annual Totals	94,366,628	83,809,788	-11.2%	79,691,497	-4.9%	-15.6%

Figure 2-7
Line Graph of Mass Cash Monthly Sales

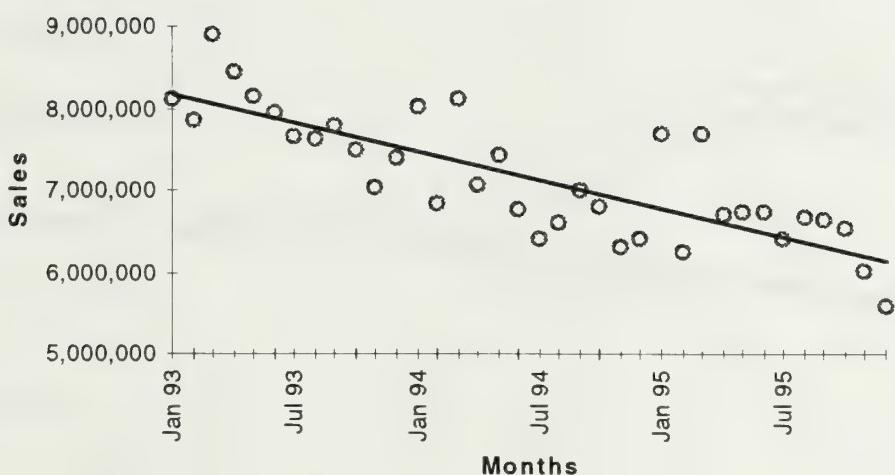


Table 2-9G
Lotto Category Monthly Sales

Month	1993	1994	Percent Change	1995	Percent Change	Percent Change 1993-95
January	27,168,467	29,318,540	7.9%	25,506,404	-13.0%	-6.1%
February	46,731,943	25,763,402	-44.9%	21,950,242	-14.8%	-53.0%
March	35,774,375	33,011,324	-7.7%	25,646,442	-22.3%	-28.3%
April	28,593,367	22,609,049	-20.9%	23,360,942	3.3%	-18.3%
May	29,666,474	27,693,169	-6.7%	21,816,808	-21.2%	-26.5%
June	29,732,956	35,968,351	21.0%	26,587,079	-26.1%	-10.6%
July	25,309,451	21,902,886	-13.5%	20,305,677	-7.3%	-19.8%
August	25,976,789	22,243,090	-14.4%	22,473,897	1.0%	-13.5%
September	26,001,821	22,648,299	-12.9%	34,647,843	53.0%	33.3%
October	23,902,543	21,520,634	-10.0%	23,970,130	11.4%	0.3%
November	24,327,792	23,900,376	-1.8%	20,332,318	-14.9%	-16.4%
December	44,440,115	24,528,633	-44.8%	17,342,884	-29.3%	-61.0%
Annual Totals	367,626,092	311,107,753	-15.4%	283,940,665	-8.7%	-22.8%

Figure 2-8
Line Graph of Lotto Category Monthly Sales

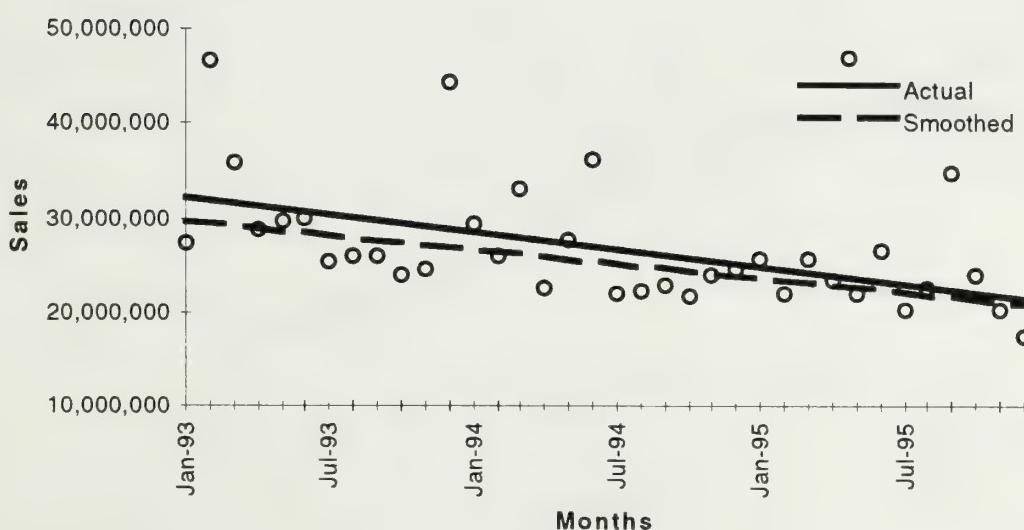
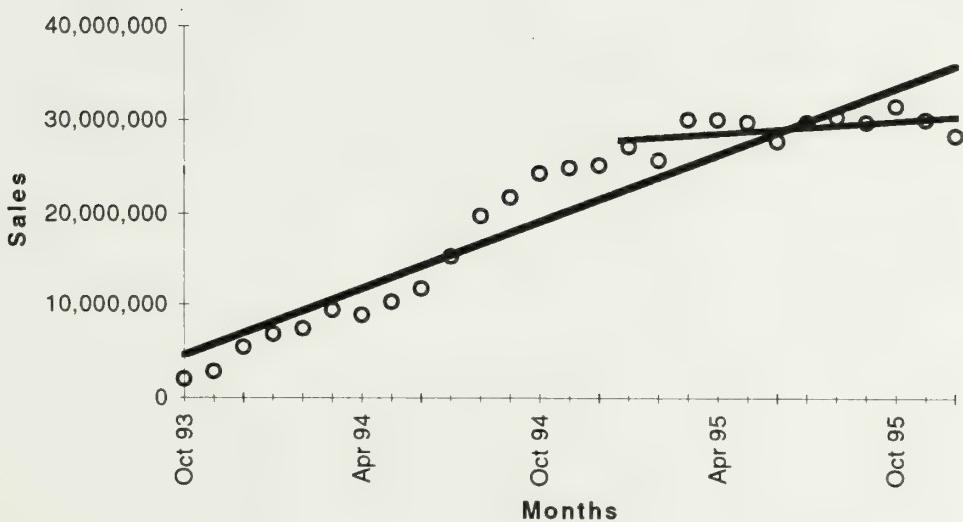


Table 2-9H
Keno Monthly Sales

Month	1993	1994	Percent Change	1995	Percent Change	Percent Change 1993-95
January	--	6,922,533	--	27,110,147	291.6%	--
February	--	7,448,360	--	25,467,893	241.9%	--
March	--	9,449,579	--	29,876,381	216.2%	--
April	--	9,051,635	--	29,828,142	229.5%	--
May	--	10,450,867	--	29,525,022	182.5%	--
June	--	11,697,522	--	27,520,661	135.3%	--
July	--	15,248,223	--	29,734,006	95.0%	--
August	--	19,478,581	--	30,264,436	55.4%	--
September	--	21,443,556	--	29,543,804	37.8%	--
October	1,918,549	24,251,622	1164.1%	31,258,786	28.9%	1529.3%
November	2,879,101	24,850,669	763.1%	29,920,036	20.4%	939.2%
December	5,546,701	25,069,021	352.0%	28,072,101	12.0%	406.1%
Annual Totals	10,344,351	185,362,167	1691.9%	348,121,416	87.8%	3265.3%

Figure 2-9
Line Graph of Keno Monthly Sales



Chapter 3

Comparisons with Other States

3.1 General Comparisons

This chapter compares MSLC sales with the sales of similar traditional lottery games in other states to provide perspectives on the Massachusetts Lottery's overall strengths, weaknesses, and relative performance.

All U.S. Lotteries

Sales for each Massachusetts lottery game are compared with game sales in other states in Table 3-1 (in terms of total sales) and Table 3-2 (per capita sales).

Total FY 1995 lottery sales ranged from highs of \$3,037.2 million in Texas and \$3,028.5 million in New York to a low of \$32.7 million in Montana. Massachusetts, with total sales of \$2,792.7 million, ranked third in total sales. Massachusetts is a medium-sized state in terms of population (about 6.0 million), but its total lottery sales approximated those of Texas and New York, both of which have populations of 18+ million.

With regard to FY 1995 per capita sales (Table 3-2),

- Massachusetts (\$465.50) had the highest total per capita sales. Montana (\$40.90) had the lowest.
- Massachusetts had the highest per capita Instant Game sales (\$298.80).
- Massachusetts per capita Numbers Game sales (\$69.10) ranked seventh of 28 state lotteries offering these games. Five of the top seven Numbers Game sales were in urban Northeast states.
- MSLC lotto sales (\$46.80) placed twelfth among the 35 lotteries selling lotto games.
- MSLC rapid-draw Keno sales (\$49.90) were highest of the eight states with this game.
- MSLC Pull Tab sales (\$0.80) ranked eighth of the eleven states selling Pull Tabs.

No single variable or set of variables explains these variations. Obviously, large states tend to have higher total sales than small states, simply because they have more customers. But per capita wagering depends on many interrelated factors including population density, urban/rural mix, the age/maturity of the lottery, the product (game) mix, the incidence of other legal gaming activities (including casinos and gaming devices), the incidence of illegal gambling activities, the number of on-line and off-line agents, and product positioning and marketing efforts.

Table 3-1
State Lottery Sales by Game FY 1995
(\$ Millions)

Region	State	Pop (M)	Instant	Numbers	Lotto	Cash Lotto	Fast Keno	Pull Tab	Other	Total
Northeast										
	Massachusetts	6.0	1793.0	414.3	199.9	81.0	299.5	5.0		2792.7
	Connecticut	3.3	260.1	195.1	170.1	45.3				670.6
	Rhode Island	1.0	20.9	31.2	61.5	4.1	24.9	0.2		142.8
	TriState	2.9	236.4	17.7	85.7	25.3				365.1
	Delaware	0.7	19.5	52.2	31.3	11.0				114
	D.C.	0.6	25.5	149.2	50	9.5				234.2
	Maryland	5.0	156.6	509.1	102.2	32.2	238.1			1038.2
	New Jersey	7.9	267.8	738.8	459.1	109.9				1575.6
	New York	18.2	666.1	1105.2	839.4	334.2	83.6			3028.5
	Pennsylvania	12.1	313.6	883.2	272.0	96.6			26.4	1591.8
Midwest										
	Illinois	11.8	630.8	482.1	386.6	130.1				1629.6
	Indiana	5.7	311.4	50.0	232.6	15.6		1.0		610.6
	Kentucky	3.8	270.7	89.6	118.4	21.2		10.2		510.1
	Michigan	9.5	424.9	632.4	291.2	51.6		8.4	18.9	1427.4
	Ohio	11.1	1032.8	548.0	437.8	100.4			63.3	2182.3
	West Virginia	1.8	61.5	16.9	50.6	9.0	14.9	0.2		153.1
	Wisconsin	5.1	310.2	29.9	120.6	48.1		10.0		518.8
Plains										
	Iowa	2.8	103.9		61.5	9.7		32.4		207.5
	Kansas	2.5	58.2	4.5	55.1	15.3	37.3	1.0		171.4
	Minnesota	4.6	206.8	13.3	92.7	21.5			1.6	335.9
	Missouri	5.3	184.7	40.1	140.3	19.8		27.7		412.6
	Nebraska	1.6	39.2		37.4	2.5				79.1
	South Dakota	0.7	16.1		14.7	4.0				34.8
South										
	Florida	14.0	528.7	452.4	911.7	346.8				2239.6
	Georgia	7.1	429.9	608.3	283.2	99.9				1421.3
	Louisiana	4.3	129.9	37.4	139.5	4.2				311.0
	Texas	18.4	1717.3	141.1	1178.8					3037.2
	Virginia	6.6	281.3	349.8	225.2	45.9				902.2
Mountain										
	Arizona	4.1	77.5		190.0	18.8				286.3
	Colorado	3.7	180.9		163.0			7.9		351.8
	Idaho	1.1	57.9		23.7	5.6		1.7		88.9
	Montana	0.8	7.2		19.7	5.8				32.7
Far West										
	California	31.4	572.0	57.2	974.5	123.8	421.5		23.2	2172.2
	Oregon	3.1	121.4	3.7	87.5		111.3	7.0	8.5	339.4
	Washington	5.3	119.8	18.1	208.9	39.1			15.0	400.9
	Total	223.9	11,635	7,670.8	8,716.4	1,887.8	1,231.1	104.8	164.8	31,410

Source: TLF Publications, Inc., Fiscal 1995 Interim Lottery Report.

Table 3-2
Per Capita State Lottery Sales by Game FY 1995
(\$ Millions)

Region	State	Pop (M)	Instant	Numbers	Lotto	Fast Keno	Pull Tab	Other	Total
Northeast									
	Massachusetts	6.0	\$298.8	\$69.1	\$46.8	\$49.9	\$0.8		\$465.5
	Connecticut	3.3	\$78.8	\$59.1	\$65.3				\$203.2
	Rhode Island	1.0	\$20.9	\$31.2	\$65.6	\$24.9			\$142.8
	TriState	2.9	\$81.5	\$6.1	\$38.3				\$125.9
	Delaware	0.7	\$27.9	\$74.6	\$60.4				\$162.9
	D.C.	0.6	\$42.5	\$248.7	\$99.2				\$390.3
	Maryland	5.0	\$31.3	\$101.8	\$26.9	\$47.6			\$207.6
	New Jersey	7.9	\$33.9	\$93.5	\$72.0				\$199.4
	New York	18.2	\$36.6	\$60.7	\$64.5	\$4.6			\$166.4
	Pennsylvania	12.1	\$25.9	\$73.0	\$30.5			\$2.2	\$131.6
Midwest									
	Illinois	11.8	\$53.5	\$40.9	\$43.8				\$138.1
	Indiana	5.7	\$54.6	\$8.8	\$43.5		\$0.2		\$107.1
	Kentucky	3.8	\$71.2	\$23.6	\$36.7		\$2.7		\$134.2
	Michigan	9.5	\$44.7	\$66.6	\$36.1		\$0.9	\$2.0	\$150.3
	Ohio	11.1	\$93.0	\$49.4	\$48.5			\$5.7	\$196.6
	West Virginia	1.8	\$34.2	\$9.4	\$33.1	\$8.3	\$0.1		\$85.1
	Wisconsin	5.1	\$60.8	\$5.9	\$33.1			\$2.0	\$101.7
Plains									
	Iowa	2.8	\$37.1		\$25.4		\$11.6		\$74.1
	Kansas	2.5	\$23.3	\$1.8	\$28.2	\$14.9	\$0.4		\$68.6
	Minnesota	4.6	\$45.0	\$2.9	\$24.8			\$0.3	\$73.0
	Missouri	5.3	\$34.8	\$7.6	\$30.2		\$5.2		\$77.8
	Nebraska	1.6	\$24.5		\$24.9				\$49.4
	South Dakota	0.7	\$23.0		\$26.7				\$49.7
South									
	Florida	14.0	\$37.8	\$32.3	\$89.9				\$160.0
	Georgia	7.1	\$60.5	\$85.7	\$54.0				\$200.2
	Louisiana	4.3	\$30.2	\$8.7	\$33.4				\$72.3
	Texas	18.4	\$93.3	\$7.7	\$64.1				\$165.1
	Virginia	6.6	\$42.6	\$53.0	\$41.1				\$136.7
Mountain									
	Arizona	4.1	\$18.9		\$50.9				\$69.8
	Colorado	3.7	\$48.9		\$44.1			\$2.1	\$95.1
	Idaho	1.1	\$52.6		\$26.6		\$1.5		\$80.8
	Montana	0.8	\$9.0		\$31.9				\$40.9
Far West									
	California	31.4	\$18.2	\$1.8	\$35.0	\$13.4		\$0.7	\$69.2
	Oregon	3.1	\$39.2	\$1.2	\$28.2	\$35.9	\$2.3	\$2.7	\$109.5
	Washington	5.3	\$22.6	\$3.4	\$46.8			\$2.8	\$75.6
Total		223.9	\$52.0	\$34.3	\$47.4	\$5.5	\$0.5	\$0.7	\$140.3

Source: TLF Publications, Inc., Fiscal 1995 Interim Lottery Report.

Comparable (Mature, Non-Rural) State Lotteries

Because of the wide range of factors that affect lottery sales in different ways, we believe that many of the states included in these nationwide tabulations are not particularly comparable to Massachusetts. As noted, level of urbanization, stage of the product life cycle, the balance between supply and demand for various games, and alternative types of gambling available are clearly important variables underlying lottery sales.

We have therefore selected for closer comparison a group of states that are most similar to Massachusetts in terms of demographic mix and lottery product portfolio. These include all non-rural lottery states from Maryland (inclusive) to the north, and from Illinois (inclusive) to the east. The “rural” states within this geographic region that are excluded are West Virginia, Maine, New Hampshire, and Vermont. Rhode Island is excluded, because it hosts electronic gaming devices at pari-mutuel facilities. Delaware, with a population of 700,000, is excluded since its small population makes lottery game sales particularly sensitive to minor environmental influences or variations. Lastly, Indiana is excluded since its lottery began in late 1989. In contrast, the comparable lotteries all started up between 1967 and 1974.

This group of nine comparable urban states consists of:

- Massachusetts
- Connecticut
- Maryland
- New Jersey
- New York
- Pennsylvania
- Illinois
- Michigan
- Ohio

All these lotteries have the same basic product portfolio as the MSLC. All sell instant games, numbers games, and lotto games. Interestingly, Powerball was not offered by any of these lotteries through FY 1995, further cementing the similarity across the various product portfolios.

Table 3-3 presents total sales for these state lotteries by game and in total.

- The population of Massachusetts ranked seventh among these nine states.
- Massachusetts total lottery sales (\$2,792.7 million) ranked second to New York (\$3,028.5 million).
- Massachusetts Instant Game sales (\$1,793.0 million) ranked first.
- Massachusetts sales of the Numbers Game (\$414.3 million) ranked eighth of nine.
- Massachusetts big jackpot lotto (Megabucks and Mass Millions) game sales (\$199.9 million) ranked seventh of nine.
- Massachusetts cash lotto (Mass Cash – \$81.0 million) placed sixth of nine.

- Massachusetts rapid-draw Keno sales were first, outperforming both New York and Maryland.
- Massachusetts Pull Tabs sales were second of the two states selling this game.

Table 3-3
Comparable States Lottery Sales FY 1995
(\\$ Millions)

State	Pop (M)	Instant Numbers	Lotto	Cash Lotto	Fast Keno	Pull Tab	Other	Total
Massachusetts	6.0	1793.0	414.3	199.9	81.0	299.5	5.0	2792.7
Connecticut	3.3	260.1	195.1	170.1	45.3			670.6
Maryland	5.0	156.6	509.1	102.2	32.2	238.1		1038.2
New Jersey	7.9	267.8	738.8	459.1	109.9			1575.6
New York	18.2	666.1	1105.2	839.4	334.2	83.6		3028.5
Pennsylvania	12.1	313.6	883.2	272.0	96.6		26.4	1591.8
Illinois	11.8	630.8	482.1	386.6	130.1			1629.6
Michigan	9.5	424.9	632.4	291.2	51.6		8.4	1427.4
Ohio	11.1	1032.8	548.0	437.8	100.4		63.3	2182.3
Total	84.9	5,545.7	5,508.2	3,158.3	981.3	621.2	13.4	108.6
								15,936.7

Source: TLF Publications, Inc., Fiscal 1995 Interim Lottery Report.

In summary, Massachusetts was by far the strongest lottery state for Instant Game sales. Keno sales were also strong. Sales of the Numbers Game and of big jackpot lotto games were about average for this group of states.

Table 3-4 shows per capita sales for Massachusetts and the comparable states.

- Of course, Massachusetts (\$465.4) ranked first in per capita total sales.
- Massachusetts (\$298.8) ranked first by far in per capita Instant Game sales -- more than three times the level of any other state.
- Massachusetts (\$69.1) ranked number four in per capita Numbers Game sales, after Maryland (\$101.8), New Jersey (\$93.5), and Pennsylvania (\$73.0).
- Massachusetts ranked fifth in per capita big jackpot lotto sales, after New Jersey (\$58.1), Connecticut (\$51.5), New York (\$46.1) and Ohio (\$39.4).
- New York (\$18.4) had the highest per capita cash lotto sales; New Jersey (\$13.9), Connecticut (\$13.7) and Massachusetts (\$13.5) followed with essentially identical levels of per capita sales.
- Massachusetts had the highest rapid-draw Keno sales, followed by Maryland. New York was the only other state lottery selling this game.

- Per capita Pull Tab sales were about equal to those in Michigan, the only other state selling this game.

In summary, Massachusetts was by far the strongest lottery state for Instant Game sales. Keno sales were also strong. Sales of the Numbers Game and of big jackpot lotto games were about average for this group of states.

Table 3-4
Comparable States Per Capita Lottery Sales FY 1995

State	Pop (M)	Instant	Numbers	Lotto	Cash Lotto	Fast Keno	Pull Tab	Other	Total
Massachusetts	6.0	\$298.8	\$69.1	\$33.3	\$13.5	\$49.9	\$0.8		\$465.5
Connecticut	3.3	\$78.8	\$59.1	\$51.5	\$13.7				\$203.2
Maryland	5.0	\$31.3	\$101.8	\$20.4	\$6.4	\$47.6			\$207.6
New Jersey	7.9	\$33.9	\$93.5	\$58.1	\$13.9				\$199.4
New York	18.2	\$36.6	\$60.7	\$46.1	\$18.4	\$4.6			\$166.4
Pennsylvania	12.1	\$25.9	\$73.0	\$22.5	\$8.0		\$2.2		\$131.6
Illinois	11.8	\$53.5	\$40.9	\$32.8	\$11.0				\$138.1
Michigan	9.5	\$44.7	\$66.6	\$30.7	\$5.4		\$0.9	\$2.0	\$150.3
Ohio	11.1	\$93.0	\$49.4	\$39.4	\$9.0			\$5.7	\$196.6
Mean		\$77.4	\$68.2	\$37.2	\$11.0	\$25.5	\$0.6	\$2.5	\$206.5

Source: TLF Publications, Inc., Fiscal 1995 Interim Lottery Report

Product Contributions to Sales

Different lotteries achieve sales through different game strengths. Table 3-5 shows the proportion of sales generated by each game in each relevant lottery's product portfolio.

Table 3-5
Product Contributions to Total Sales FY 1995

State	Instant	Numbers	All Lotto	Fast Keno	Pull Tab	Other	Total
Massachusetts	64.2%	14.8%	10.1%	10.7%	0.2%		100.0%
Connecticut	38.8%	29.1%	32.1%				100.0%
Maryland	15.1%	49.0%	12.9%	22.9%			100.0%
New Jersey	17.0%	46.9%	36.1%				100.0%
New York	22.0%	36.5%	38.8%	2.8%			100.0%
Pennsylvania	19.7%	55.5%	23.2%		1.7%		100.0%
Illinois	38.7%	29.6%	31.7%				100.0%
Michigan	29.8%	44.3%	24.0%		0.6%	1.3%	100.0%
Ohio	47.3%	25.1%	24.7%			2.9%	100.0%

Nearly two-thirds of the MSLC's FY 1995 sales were of Instant Tickets. In fact, no single traditional lottery game contributed this great a proportion of sales to any other state lottery. Astute product management policies, distribution, and marketing have served to develop the Massachusetts market for this game. However, this highly developed consumer demand for Instant Tickets may to some extent substitute for the demand for other games in the Commonwealth.

3.2 Recent Portfolio Performance

All U.S. Lotteries

Table 3-6 summarizes sales trends for fiscal 1995 versus fiscal 1994 for all 35 lottery jurisdictions. The table shows the number of states where sales increased, decreased, or remained stable for total sales, instant games, number games, big jackpot lotto, cash/little lotto, fast draw keno, and pull tabs. The bottom row of the table indicates whether the Massachusetts Lottery's total sales and sales for each game increased or decreased. Table 3-7 provides detailed data for all 35 U.S. jurisdictions.

- Massachusetts total lottery sales increased, in line with the national trend: 32 of 35 jurisdictions had sales increases.
- Massachusetts sales of Instant Tickets increased, in line with the nationwide trend (30 of 35 lotteries).
- Massachusetts Numbers Game sales decreased; in contrast, sales of numbers games increased in 21 of the 28 states where daily numbers games are sold.
- Massachusetts big jackpot lotto sales dropped, while they increased in 21 of 34 jurisdictions selling big jackpot lotto games.
- Mass Cash game sales dropped, in line with the decreasing trend exhibited in 17 of the 28 states with cash lotto games.
- Pull Tab sales dropped, in line with six of eleven states selling these tickets.
- Massachusetts Keno sales increased, corresponding with the trend of increasing sales in five of eight jurisdictions selling rapid-draw keno.

Table 3-6
Performance Trends Summary All U.S. Lotteries Fiscal 1995 versus Fiscal 1994

95 vs. 94	Total Sales	Instant Sales	Numbers Sales	Lotto Sales	Cash Lto Sales	Pull Tab Sales	Keno Sales
Increase ↑	32	30	21	21	10	4	5
No Change	1	1	1	2		1	1
Decrease ↓	2	4	6	11	17	6	2
# States	35	35	28	34	28	11	8
Massachusetts Trend	↑	↑	↓	↓	↓	↓	↑
U.S. National Trend	↑	↑	↑	↑	↓	↔↔	↑

Comparable (Mature, Non-Rural) State Lotteries

Table 3-8 shows fiscal 1995 versus fiscal 1994 sales trends for the nine comparable state lotteries, all of which shared a similar game portfolio. State lotteries are ranked according to the size of their increase in total sales in FY 1995 versus 1994.

- All states with this game portfolio grew total sales in fiscal 1995, and the Massachusetts increase of 14.0% was third highest.
- Six of the nine states out-performed Massachusetts in instant game growth. However, much of the growth in other states occurred as they increasingly implemented the Massachusetts model for Instant Ticket sales. The MSLC has already optimized sales of Instant Tickets. The 12.6% growth in FY 1995 was actually very strong for a mature game in a well-supplied market.
- Massachusetts (-4.0%) was one of only two states with reduced numbers games sales; Connecticut (-4.5%) was the other state that lost sales.
- Massachusetts big jackpot lotto games (-24.5%) were the poorest performer of all such lotto games among the comparable states.
- The Mass Cash game (-10.3%) was the third poorest performer of all cash lotto games in comparable states. Ohio (-15.1%) and Maryland (-12.0%) were the only other two comparable state lotteries to suffer double digit sales drops. In total, only four of the nine comparable states grew cash lotto sales.

Table 3-7
Portfolio Performance FY 1995 vs. FY 1994

Region	State	Pop (M)	Instant	Numbers	Lotto	Cash Lotto	Fast Keno	Pull Tab	Other	Total
Northeast										
	Massachusetts	6.0	12.6%	-4.0%	-24.5%	-10.3%	359.4%	-20.6%		14.0%
	Connecticut	3.3	58.9%	-4.5%	10.5%	47.6%				21.3%
	Rhode Island	1.0	85.0%	-3.4%	30.3%		-12.3%	0.0%		19.6%
	TriState	2.9	37.8%	2.3%	-5.4%	-10.3%				18.7%
	Delaware	0.7	11.4%	2.2%	28.8%	41.0%				13.2%
	D.C.	0.6	10.9%	6.6%	35.9%	-4.0%				11.7%
	Maryland	5.0	24.7%	2.8%	-19.0%	-12.0%	17.4%			5.3%
	New Jersey	7.9	44.2%	1.9%	0.7%	70.4%				10.1%
	New York	18.2	122.8%	7.1%	30.0%	8.7%	-0.9%			27.8%
	Pennsylvania	12.1	7.7%	3.8%	-16.0%	-3.1%				1.7%
Midwest										
	Illinois	11.8	15.0%	6.1%	-4.1%	6.0%				6.6%
	Indiana	5.7	12.3%	9.2%	-0.6%	-3.7%		-37.5%		6.2%
	Kentucky	3.8	0.0%	18.8%	18.5%	0.5%		7.4%	N/A	5.6%
	Michigan	9.5	0.8%	3.2%	26.2%	-7.2%		15.1%	-14.5%	5.7%
	Ohio	11.1	19.6%	6.8%	18.1%	-15.1%			16.6%	13.7%
	West Virginia	1.8	16.9%	9.0%	12.7%	40.6%	-14.4%			11.9%
	Wisconsin	5.1	13.3%	2.7%	-5.9%	-9.1%		-13.8%		4.7%
Plains										
	Iowa	2.8	4.7%		-1.4%	-4.0%		-8.2%		0.2%
	Kansas	2.5	28.8%	2.3%	12.0%	-9.5%	6.3%	-33.3%		12.5%
	Minnesota	4.6	1.3%	-10.1%	4.0%	-5.3%			128.6%	1.3%
	Missouri	5.3	19.2%	6.6%	18.3%	27.7%		17.4%	N/A	17.8%
	Nebraska	1.6	-25.9%		N/A					49.5%
	South Dakota	0.7	37.6%		-13.5%	-4.8%				5.8%
South										
	Florida	14.0	3.8%	3.6%	16.7%	-17.6%				4.2%
	Georgia	7.1	-14.3%	67.0%	41.5%					33.3%
	Louisiana	4.3	-34.7%	5.6%	20.7%					-11.1%
	Texas	18.4	53.8%	5.9%	-22.0%					10.0%
	Virginia	6.6	4.3%	12.8%	-10.4%	2.7%				3.0%
Mountain										
	Arizona	4.1	12.0%		17.7%	-21.7%				12.5%
	Colorado	3.7	9.3%		44.0%			-1.3%	22.7%	
	Idaho	1.1	36.9%		13.9%	-16.4%		21.4%	N/A	23.0%
	Montana	0.8	-7.7%		-5.7%	-33.3%				-12.6%
Far West										
	California	31.4	6.2%	-30.0%	17.6%	38.0%	7.4%			12.5%
	Oregon	3.1	62.7%	-5.1%	2.5%		3.6%	-13.6%	3.7%	18.0%
	Washington	5.3	42.3%	0.6%	34.0%	4.5%			-21.1%	27.5%
Total		223.9	19.5%	7.0%	5.5%	6.7% *	32.0%	-1.5%	37.3%	11.8%

* Increase is probably due to sales growth in CA and NJ, since Cash Lotto sales declined in 17 of 28 states.

Table 3-8
Portfolio Performance FY 1995 vs. FY 1994

State	Total	Instant	Numbers	Lotto	Cash Lotto	Fast Keno	Pull Tab	Other
New York	27.8%	122.8%	7.1%	30.0%	8.7%	-0.9%		
Connecticut	21.3%	58.9%	-4.5%	10.5%	47.6%			
Massachusetts	14.0%	12.6%	-4.0%	-24.5%	-10.3%	359.4%	-20.6%	
Ohio	13.7%	19.6%	6.8%	18.1%	-15.1%			16.6%
New Jersey	10.1%	44.2%	1.9%	0.7%	70.4%			
Illinois	6.6%	15.0%	6.1%	-4.1%	6.0%			
Michigan	5.7%	0.8%	3.2%	26.2%	-7.2%		15.1%	-14.5%
Maryland	5.3%	24.7%	2.8%	-19.0%	-12.0%	17.4%		
Pennsylvania	1.7%	7.7%	3.8%	-16.0%	-3.1%			

Summary

The MSLC's FY 1995 increases in total sales, Instant Game sales, and Keno sales paralleled the national trends for increasing sales. The MSLC's sales decreases in Mass Cash and Pull Tab sales also paralleled the national trends. But the MSLC suffered sales drops for the Numbers Game and big jackpot lotto games, in contrast to healthier sales elsewhere. These trends confirm the previously identified strengths (Instant Tickets and Keno) and weaknesses (Numbers Game and big jackpot lotto games) in the Massachusetts Lottery's product portfolio.

3.3 Lottery Effectiveness and Efficiency

This chapter has analyzed the *sales* performance of the Massachusetts Lottery compared with other U.S. lotteries. Two additional ways to measure performance are to compare lotteries on their *effectiveness* and their *efficiency*. Lottery effectiveness refers to the percentage of personal income spent on lottery games. Lottery efficiency refers to a constellation of three measures:

1. Lottery profits (governmental revenue) as a percentage of personal income,
2. Lottery profits as a percentage of total sales, and
3. Operating expenses as a percentage of sales.

Table 3-9 provides state personal income and percentage of personal income represented by total sales, gross revenues, and government profits. Table 3-10 lists total FY 1995 sales, total

prizes, gross revenues, operating expenses, and government profits. Table 3-10 also lists three ratios: prizes, expenses, and profits as a percentage of sales, and the table shows per capita profits.

Lottery Effectiveness

Table 3-9 shows that Massachusetts (1.82%) ranked first in total sales as a percentage of personal income. Delaware (1.32%) ranked second. Montana (0.21%) was last. Over half of U.S. lotteries had effectiveness measures of 0.60% or less, and over three-quarters measured 0.90% or less. Thus, the MSLC was two to three times as effective as the majority of U.S. lotteries.

Table 3-9 also shows gross revenues, defined as total sales minus prizes, as a percentage of personal income. The MSLC (0.57%) ranked second after the District of Columbia (0.71%). The District is highly atypical, since its market stretches into Virginia and Maryland; it is 100% urban and presumably counts many commuter customers among its sales (but not population) base. Among “real state” lotteries, the next best was Georgia, at 0.48%, significantly below Massachusetts.

The effectiveness of a lottery in extracting personal income is a function of numerous variables including the structure of the competitive landscape, marketing, promotions, and distribution. Clearly, the performance of the MSLC is outstanding: it is overall the most effective lottery in the United States.

Lottery Efficiency

Operating Expenses (as a Percentage of Sales). This measure essentially states how many cents are spent to generate one dollar of government profits. Table 3-10 shows that in fiscal 1995, the percentage of sales allocated to expenses ranged from a low of 5.2% (or 5.2 cents) in Connecticut to high of 23.4% in Nebraska and 24.2% in Montana. On average, states allocated 11.3% of sales to expenses. The MSLC compared very favorably on this efficiency: at 8.5% of sales versus expenses, it shared second place with New Jersey.

Lottery Profits (as Percentage of Personal Income). Table 3-10 shows that the Massachusetts Lottery (0.41%) ranked a very close second after Delaware, (0.42%) another small state perhaps with a significant commuter contribution to profits, in government profits as a

percentage of personal income. The next best was Georgia, at 0.35% of personal income. Montana (0.06%) placed last.

Lottery Profits (as Percentage of Total Sales). Table 3-10 provides ratios of prizes, expenses, and government profits as a percentage of total lottery sales.

In fiscal 1995, Massachusetts led all lotteries by returning 69.4% of sales to players as prizes. The Missouri lottery ranked second, returning 60.2%, and Idaho (59.5%) was third. Thus, the low measure of profits as a percentage of sales in Massachusetts is due to the high proportion of sales allocated to prizes.

The high prize payout in Massachusetts is primarily a function of the 70% prize allocation for Instant Ticket sales, this game being the dominant contributor to total sales. In fact, the strong “prize structure” of this game is part of the Massachusetts model: Instant game players are far more sensitive to prize payouts than are lotto or Numbers Game players.²³

Profits can be calculated in two ways – as a percentage of gross sales or as per capita profits. New York (41.1%) contributed the highest percentage of sales to the government coffers. New Jersey (40.1%) and Pennsylvania (39.7%) followed closely.

Idaho (21.4%) returned the lowest percentage of gross sales as profits, and Massachusetts returned the second lowest (22.9%). However, both Idaho (59.5%) and Massachusetts (69.4%) have very high prize allocations. Interestingly, fully 65.1% of Idaho’s total sales are contributed by instant games. Per capita profits, shown in the last column of Table 3-10, ranged from top ranked Massachusetts (\$107) and the District of Columbia (\$107) to last ranked Montana (\$11).

Summary

Massachusetts ranked first in total lottery sales as a percentage of personal income. In fact, the MSLC was two to three times as *effective* as the majority of U.S. lotteries. The MSLC ranked second in gross revenues as a percentage of personal income. (Although the District of Columbia ranked first, its atypical market stretches into Virginia and Maryland, and it counts many commuter customers among its sales -- but not population -- base.)

²³ Increasing the prize payout of the mature Instant game is a product management strategy comparable to decreasing the price of non-gambling frequently-purchased non-durable consumer goods. This strategy is generally accepted in the business world, but the MSLC was its pioneer in the lottery industry.

The highly *efficient* Massachusetts Lottery ranked second in the percentage of sales spent to generate sales, and it ranked a very close second in government profits as a percentage of personal income.

Clearly, the performance of the MSLC is outstanding: it is the most effective/efficient lottery in the United States.

Table 3-9
Lottery Effectiveness FY 1995

Region	State	Personal Income (\$ Millions)	Total Sales	Gross Revenue (as a % of personal income)	Gov't Profits
Northeast					
	Massachusetts	154,751	1.82%	0.57%	0.41%
	Connecticut	96,297	0.70%	0.30%	0.26%
	Rhode Island	22,179	0.64%	0.33%	0.26%
	TriState	62,760	0.58%	0.25%	0.16%
	Delaware	17,753	1.32%	0.31%	0.42%
	D.C.	16,124	0.71%	0.71%	0.27%
	Maryland	124,820	0.83%	0.39%	0.31%
	New Jersey	221,607	0.71%	0.35%	0.29%
	New York	472,381	0.64%	0.33%	0.26%
	Pennsylvania	269,057	0.59%	0.29%	0.23%
Midwest					
	Illinois	279,502	0.58%	0.28%	0.21%
	Indiana	117,217	0.52%	0.22%	0.16%
	Kentucky	68,143	0.75%	0.31%	0.20%
	Michigan	212,080	0.67%	0.32%	0.26%
	Ohio	232,343	0.94%	0.41%	0.28%
	West Virginia	31,352	0.49%	N/A	N/A
	Wisconsin	106,811	0.49%	0.21%	0.15%
Plains					
	Iowa	57,334	0.36%	0.17%	0.10%
	Kansas	53,370	0.32%	0.15%	0.11%
	Minnesota	102,547	0.33%	0.14%	0.08%
	Missouri	109,336	0.38%	0.15%	0.11%
	Nebraska	33,176	0.24%	0.12%	0.06%
	South Dakota	14,118	0.25%	0.13%	0.08%
South					
	Florida	302,449	0.74%	0.36%	0.28%
	Georgia	142,881	0.99%	0.48%	0.35%
	Louisiana	76,167	0.41%	0.21%	0.15%
	Texas	364,939	0.83%	0.36%	0.27%
	Virginia	148,025	0.61%	0.28%	0.21%
Mountain					
	Arizona	77,429	0.37%	0.19%	0.12%
	Colorado	81,640	0.43%	0.18%	0.12%
	Idaho	20,656	0.43%	0.17%	0.09%
	Montana	15,293	0.21%	0.11%	0.06%
Far West					
	California	706,983	0.31%	0.15%	0.10%
	Oregon	63,016	0.54%	0.25%	0.17%
	Washington	120,806	0.33%	0.16%	0.11%
	Total	4,995,342	0.63%	0.29%	0.21%

Source: TLF Publications, Inc., Fiscal 1995 Interim Lottery Report.

Table 3-10
U.S. Lotteries FY 1995 Prizes, Expenses, and Government Profits

Region	State	Sales	Prizes	Gross Rev.	Op. Exps.	Gov't Profits	Prizes (as a % of sales)	Expenses	Profits	Per Cap Profits
Northeast										
	Massachusetts	2814.1	1938.0	876.1	236.8	639.3	68.9%	8.4%	22.7%	\$107
	Connecticut	670.6	385.8	284.8	35.1	249.7	57.5%	5.2%	37.2%	\$76
	Rhode Island	142.8	68.5	74.3	17.2	57.1	48.0%	12.0%	40.0%	\$58
	TriState	365.3	208.8	156.5	54.0	102.5	57.2%	14.8%	28.1%	\$35
	Delaware	114.0	58.6	55.4	12.1	43.3	51.4%	10.6%	38.0%	\$72
	D.C.	234.2	120.2	114.0	39.0	75.0	51.3%	16.7%	32.0%	\$107
	Maryland	1038.2	548.5	489.7	104.0	385.7	52.8%	10.0%	37.2%	\$77
	New Jersey	1575.6	809.3	766.3	133.9	632.4	51.4%	8.5%	40.1%	\$80
	New York	3028.5	1470.6	1557.9	314.1	1243.8	48.6%	10.4%	41.1%	\$68
	Pennsylvania	1591.8	812.7	779.1	147.9	631.2	51.1%	9.3%	39.7%	\$52
Midwest										
	Illinois	1629.6	845.0	784.6	196.3	588.3	51.9%	12.0%	36.1%	\$50
	Indiana	610.6	349.9	260.7	77.6	183.1	57.3%	12.7%	30.0%	\$32
	Kentucky	510.1	296.4	213.7	77.6	136.0	58.1%	15.2%	26.7%	\$36
	Michigan	1427.4	738.2	689.2	139.2	550.0	51.7%	9.8%	38.5%	\$58
	Ohio	2182.3	1236.8	945.5	289.0	656.4	56.7%	13.2%	30.1%	\$59
	West Virginia	153.1	72.0	81.1	N/A	N/A	47.0%	N/A	N/A	N/A
	Wisconsin	518.8	299.8	219.0	54.7	164.3	57.8%	10.5%	31.7%	\$32
Plains										
	Iowa	207.5	112.6	94.9	36.6	58.3	54.3%	17.6%	28.1%	\$21
	Kansas	171.4	92.1	79.3	21.0	58.3	53.7%	12.3%	34.0%	\$23
	Minnesota	335.9	197.4	138.5	56.8	81.7	58.8%	16.9%	24.3%	\$18
	Missouri	412.6	248.5	164.1	38.9	125.2	60.2%	9.4%	30.3%	\$24
	Nebraska	79.1	40.8	38.3	18.5	19.8	51.6%	23.4%	25.0%	\$12
	South Dakota	34.8	16.0	18.8	7.0	11.8	46.0%	20.0%	33.9%	\$17
South										
	Florida	2239.6	1151.7	1087.9	236.9	851.0	51.4%	10.6%	38.0%	\$61
	Georgia	1421.3	740.3	681.0	180.7	500.4	52.1%	12.7%	35.2%	\$70
	Louisiana	311.0	152.0	159.0	47.2	111.8	48.9%	15.2%	35.9%	\$26
	Texas	3037.2	1737.6	1299.6	299.2	1000.4	57.2%	9.9%	32.9%	\$54
	Virginia	902.2	487.1	415.1	104.1	311.0	54.0%	11.5%	34.5%	\$47
Mountain										
	Arizona	286.3	143.0	143.3	50.4	92.9	49.9%	17.6%	32.4%	\$23
	Colorado	351.8	200.8	151.0	50.5	100.6	57.1%	14.4%	28.6%	\$27
	Idaho	88.9	52.9	36.0	17.0	19.0	59.5%	19.1%	21.4%	\$17
	Montana	32.7	16.2	16.5	7.9	8.6	49.5%	24.2%	26.3%	\$11
Far West										
	California	2172.2	1086.1	1086.1	348.1	738.0	50.0%	16.0%	34.0%	\$24
	Oregon	339.4	183.3	156.1	47.5	108.6	54.0%	14.0%	32.0%	\$35
	Washington	400.9	207.6	193.3	60.3	133.1	51.8%	15.0%	33.2%	\$25
	Total	31431.8	17125.1	14306.7	3557.1	10668.6	54.5%	11.3%	33.9%	\$48

Source: TLF Publications, Inc., Fiscal 1995 Interim Lottery Report.

Chapter 4

*Casino Impacts on
Traditional Lottery Sales*

4.1 Introduction

Evaluating the impact of casino gambling on traditional lottery sales is a complex task because competitive environments differ markedly across jurisdictions in which both forms of gambling operate. For example, casinos may be widely dispersed throughout a state (as they are in Illinois and Minnesota), or they may be confined to one relatively isolated small town (like Deadwood, South Dakota). Alternatively, some casinos (like those in New Jersey) draw their clientele from a very broad market area, while others (like those in Wisconsin) appeal primarily to their in-state residents.

The type of competitive environments in which casinos operate can also affect their impacts on traditional lottery sales. Casinos operate in Louisiana, where the competitive environment is fully saturated: the state lottery and electronic gambling devices located in the state's liquor-licensed establishments, truck stops, and race tracks compete with casinos for gambling revenues.

Massachusetts, Connecticut, and Rhode Island present another type of competitive landscape. All have state lotteries. Connecticut has one casino (the most profitable casino in North America, and perhaps in the world), and Rhode Island has electronic gambling devices at two pari-mutuel facilities. Yet Massachusetts residents comprise about one-third of customers at the Connecticut casino; Rhode Island residents also visit the casino, and some Connecticut and Massachusetts residents wager on the Rhode Island devices.

Completely accounting for variables like casino location, the number of casinos in a market area, other leisure/entertainment options available in the immediate vicinity of the casino(s), competitive gambling alternatives, personal income in the casino's market area, and the influx of tourists is frankly impossible, given that casinos are currently operating in only a limited number of jurisdictions.

State lotteries also differ significantly in terms of their maturity, product mix, advertising and marketing savvy. Some casinos (like those in Michigan) operate in states that have mature, successful lotteries. Other casinos (like those in Minnesota) opened simultaneously with lottery start-ups. Again, given the small sample size, controlling for all lottery variables is impossible.

This chapter presents comprehensive data and discusses sales trends for lotteries in North American jurisdictions where casinos are currently operating. Analysis of these trends is very helpful in providing an understanding of the *qualitative* relationship between lottery sales and

casino sales and between their respective revenues. However, the additional analyses of the subsequent chapters are also required prior to developing our quantitative estimates.

Terminology. Two concepts used throughout this discussion are sometimes confusing to those outside the gambling industries.

- *Sales or Gross Wagering.* The gross amount wagered by bettors and “handled” by operators. Gross wagering and sales are synonymous with *handle* (the dollar amount of wagering transactions handled by the lottery or by an electronic gaming device).
- *Revenue.* The total dollar amount of sales (or wagering) *retained by operators*. Revenue is synonymous with the casino term “win” (the net dollar amount the operator wins from his customers).

The concepts of handle and win should be used with care. It is inappropriate, and misleading, to compare the handle of one form of gambling with the win of another form of gambling. In particular, comparing lottery *handle* with casino *win* grossly underestimates the volume of casino gambling compared with lottery gambling.

Chapter Structure

This chapter is divided into five sections:

Gambling Sales and Revenues: Casinos Compared with Traditional Lotteries

- We examine casino and lottery sales and revenues for the United States as a whole, for each of the ten individual states that offer casino gambling (but not electronic gambling devices), and for the Canadian province of Ontario (which also has casino gambling, but no EGDs). Tables showing actual sales and revenues are accompanied by graphs of sales and revenues, thereby providing a quick appreciation of trends.²⁴

Traditional Lottery Sales Trends, by Game, in Casino States

- We next examine sales trends of individual lottery games in jurisdictions with casinos. We specifically examine the trends in sales of instant games, daily numbers games, and lotto games.

²⁴ This chapter contains a great deal of information. To increase readability, tables and figures for all individual jurisdictions have been placed in Appendix A. Aggregate U.S. data are presented here in the main body of this report.

Traditional Lottery Sales in Selected States

- This section (a) examines lottery sales in New Jersey, New York, and Pennsylvania, which are all major markets (at different distances) for Atlantic City casinos, (b) compares traditional lottery sales in Connecticut versus Massachusetts, which are both markets for Foxwoods at different distances, and (c) compares lottery sales in Illinois, which has twelve casinos, to lottery sales in Ohio, which is a state quite comparable to Illinois except that it has no casinos.

Geographic Analysis of the Impact of Foxwoods on Massachusetts Counties

- We examine sales trends in Massachusetts counties, focusing our analysis on county distance from Foxwoods Casino in Ledyard, Connecticut.

Conclusions

- Lastly, we present our conclusions about traditional lottery sales in jurisdictions with casinos.

4.2 Gambling Sales and Revenues: Casinos Compared with Traditional Lotteries

In this section, we examine casino and lottery sales and revenues data for the United States as a whole, and for each of the ten American states and the one Canadian province that host casino gambling, but not electronic gaming devices.

Sales and Revenues: The U.S. Lottery and State-Regulated Casino Industry

Table 4-1A shows total U.S. state-regulated²⁵ casino sales (handle) and total U.S. traditional lottery sales (handle) for calendar years 1983 through 1994. Table 4-1B shows total U.S. state-regulated casino revenues (win) and total U.S. traditional lottery revenues (sales minus prizes) for the same period. Graphs comparing casino and lottery sales and revenues are presented with each table.

²⁵ As explained in the introduction to this chapter, handle and revenue statistics are not available for most Native American casinos.

Tables 4-1A and 4-1B
US Sales and Revenues

Table 4-1A
US Sales
(Handle in \$ Millions)

Year	Casino		Lottery	
	Handle	Change	Handle	Change
1983	106,000.0		5,171.2	
1984	116,661.7	10.1%	8,132.5	57.3%
1985	125,739.7	7.8%	10,213.3	25.6%
1986	129,941.8	3.3%	12,479.7	22.2%
1987	144,838.2	11.5%	13,140.3	5.3%
1988	184,192.7	27.2%	17,051.9	29.8%
1989	196,327.7	6.6%	19,488.3	14.3%
1990	244,408.3	24.5%	20,734.8	6.4%
1991	243,030.5	-0.6%	20,578.6	-0.8%
1992	257,155.7	5.8%	23,097.9	12.2%
1993	297,275.3	15.6%	26,944.3	16.7%
1994	367,866.8	23.7%	30,019.3	11.4%
1995	389,232.6	5.8%	N/A	

Figure 4-1A
US Sales
(Handle in \$ Millions)

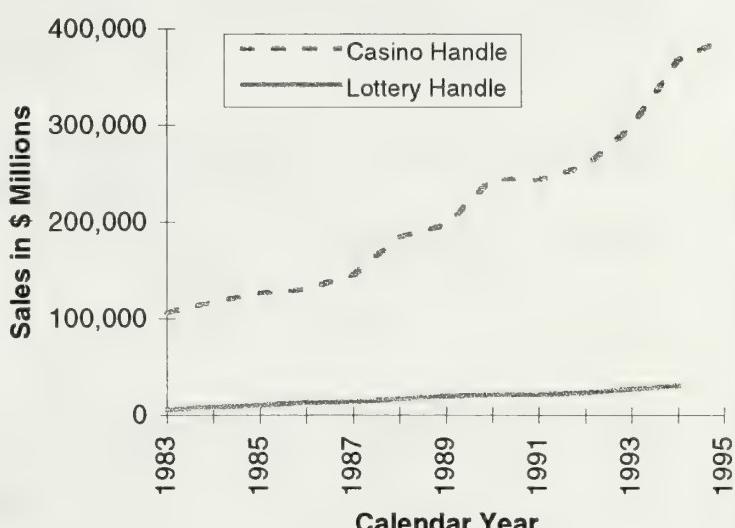
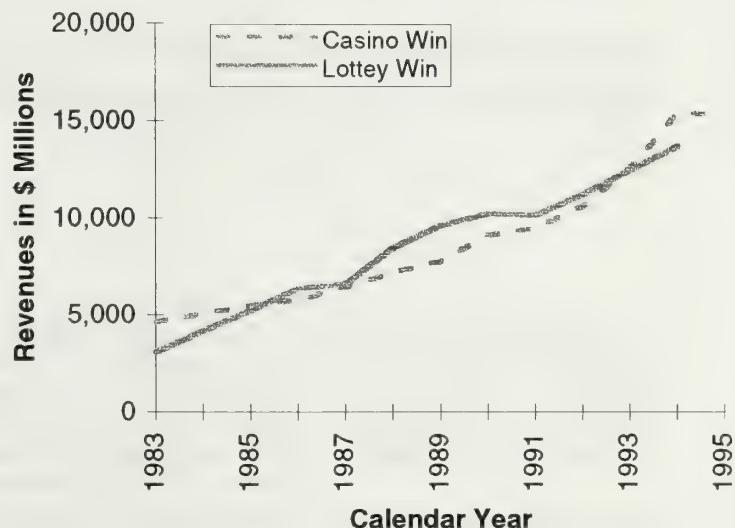


Table 4-1B
US Revenues
(Win in \$ Millions)

Year	Casino		Lottery	
	Win	Change	Win	Change
1983	4,614.0		3,044.0	
1984	5,047.5	9.4%	4,147.6	36.3%
1985	5,448.2	7.9%	5,208.8	25.6%
1986	5,744.0	5.4%	6,334.4	21.6%
1987	6,395.8	11.3%	6,582.0	3.9%
1988	7,149.4	11.8%	8,423.6	28.0%
1989	7,733.3	8.2%	9,599.4	14.0%
1990	9,078.5	17.4%	10,192.4	6.2%
1991	9,438.7	4.0%	10,103.6	-0.1%
1992	10,587.5	12.2%	11,191.8	10.8%
1993	12,537.5	18.4%	12,424.7	11.0%
1994	15,372.9	22.6%	13,665.5	10.0%
1995	15,319.6	-0.3%	N/A	

Figure 4-1B
US Revenues
(Win in \$ Millions)



Tables 4-1A and 4-1B show:

- Casino industry handle dwarfs lottery industry handle. For the last ten years, casino handle has been more than ten times lottery handle.
- Casino industry handle increased 23.7% in 1994, largely due to growth in riverboat casino gambling. Increases in handle from riverboat gambling also drove total casino handle growth in 1992 and 1993.
- Lottery industry handle has increased strongly over the last three years, due primarily to the start-up of instant and on-line sales in four states, including Texas, which has the highest total sales of all state lotteries (although not very close in terms of per capita sales to those of Massachusetts).
- Casino revenues exceeded lottery revenues from 1983 through 1985. Lottery revenues crossed casino revenues in 1986, due to the start-up of instant and on-line games in five new lottery jurisdictions including California.
- For the last four years, U.S. casino revenues have been about equal to total U.S. lottery industry revenues.

Individual States

New Jersey Sales and Revenues

Casino gambling in Atlantic City began in 1978. From 1978 through 1988, Nevada and Atlantic City held a duopoly on legal casino gambling in the United States. While Philadelphia and New York City are major markets for Atlantic City casinos, we confine this initial analysis of New Jersey gambling to an assessment of the comparative trends of the state's own lottery and casino gambling. (More specific analysis of the impacts of casinos on neighboring states is contained in the next section of this chapter.)

Exhibit A-1, located in Appendix A, shows total New Jersey casino sales (handle) and lottery sales from 1983 through 1995.²⁶ Exhibit A-1 also compares casino and lottery revenues. Graphs of these data are also presented.

Exhibit A-1 shows:

²⁶ State lotteries uniformly report financial data on a fiscal year basis; most lotteries end their fiscal years on June 30. Casino financial data and regulatory reports are usually presented on a calendar year basis. Comparison of sales and revenues are complicated by this difference. For our annual comparisons, we list casino sales (and revenues) for a specific calendar year, e.g., 1994, with lottery sales (and revenues) for the subsequent fiscal year, e.g., 1995. In the case of newer casino jurisdictions, this six-month period builds in an appropriate lag time during which any impact of casino gambling on traditional lottery sales can be expected to develop.

Both Canadian lotteries and casinos report data on a uniform fiscal year basis, with both fiscal years ending on 3/31.

- Both casino and lottery handles have generally increased since 1983.
- Atlantic City casino handle dwarfs lottery handle. Since 1983, casino handle has been 50 to 60 times as large as lottery handle.
- From 1990 through 1994, casino handle growth was rather flat, ranging from 1.7% to 3.9%. Handle increased 11.6% in 1995.
- New Jersey lottery sales have grown every year since FY 1985 with the exception of a 1.9% decrease in FY 1990.
- Fiscal 1995 was the first time in eight years that the New Jersey lottery saw double-digit growth. (This growth was due primarily to sales increases in instant games and cash lotto.)
- Casino revenues have grown every year since 1983, and lottery revenues have grown every year except for small decreases in FY 1990 and FY 1993.
- Since 1983, casino revenues have been four to five times as large as lottery revenues.

Iowa Sales and Revenues

Iowa riverboat casino gambling began in April 1991. The state initially imposed fairly restrictive gambling limits on casinos (\$5 maximum bet, \$200 maximum loss, and gambling space limitations). Unlimited stakes boats in Illinois proved disastrous for Iowa: three of the original five Iowa boats moved to other riverboat gambling locations. After this experience, the state eased the gambling limits in May 1994. Iowa currently has nine riverboat casinos operating in seven locations.²⁷

Exhibit A-2 shows total Iowa casino handle from calendar year 1991 and lottery sales from FY 1986, the lottery's start-up year. The exhibit also shows corresponding casino and lottery revenues. The most prominent trends are:

- Casino handle grew only 12% in 1992, then fell 29% in 1993, due to Iowa's restrictive gambling limits and withdrawal of boats from the market. Sales recovered, growing 160% in 1994 and 137% in 1995, after the removal of the gambling limits originally imposed by the state.
- Calendar 1995 casino handle was about twenty times as large as FY 1995 lottery handle.
- Lottery handle increased 24% in FY 1993, after declines (unrelated to casinos) in 1990 and 1991 and relatively small 5% growth in 1992. The FY 1993 24.0% increase was due almost entirely to increased Powerball sales.

²⁷ In April 1995, two Iowa race tracks also installed slot machines. We consider the combined effects of casino and slot machine gambling in Chapter 5.

- In comparison to strong growth of casino handle in 1994 and 1995, lottery handle was flat.
- Trends in casino and lottery revenues have reflected the trends in sales.
- Casino revenues overtook lottery revenues in 1994, after the casino operating restrictions were eased.
- In April 1995, slot machines were installed at two race tracks in Iowa. Even though these devices were operating for only nine months (and for one month at a third), their handle reached \$3.1 billion, compared with riverboat casino handle of \$4.0 billion.

Illinois Sales and Revenues

Riverboat casino gambling in Illinois began shortly after Iowa, in September 1991. Currently, thirteen riverboats operate in nine locations in Illinois.

The Illinois Lottery, which began operations in July 1974, was mature when casino gambling was introduced.

Exhibit A-3 shows Illinois casino handle from its start-up in calendar year 1991 and lottery sales from 1983. The exhibit also shows the corresponding casino and lottery revenues.

The exhibit shows:

- Casino handle has grown almost explosively as new casinos opened each year.
- Casino sales growth outpaced lottery sales growth every year. In 1992, the first full year of operations, casino handle was about seven times as large as lottery handle; in 1994, it was about fourteen times as large.
- Lottery sales performance has been variable. Lottery handle was flat in FY 1990 and 1991, prior to the opening of the first casino. Handle grew 8.2% in FY 1992, due to increasing instant game sales. Sales dropped 7.9% in FY 1993, then increased during the next two years.
- Casino revenues have increased steadily, and overtook lottery revenues in 1993.
- Lottery revenues declined in FY 1993 (5.5%) and FY 1994 (6.1%), the first two years after casino gambling began. Lottery revenues, however, rebounded 15.7% in FY 1995.

Colorado Sales and Revenues

Casino gambling in Colorado, which began in October 1991, is limited to three former mining towns. Only poker, blackjack, and slot machines are allowed. There is a \$5 per bet limit.

The Colorado Lottery began in January 1983, but restrictive legislation initially limited sales to instant tickets only. Enabling legislation for on-line games was passed in 1988, and the lottery introduced lotto in January 1989. Thus, while the instant game was mature when casinos began operations, on-line games were relatively young.

Exhibit A-4 shows Colorado casino handle from calendar year 1991 and lottery sales from 1983; the year in which the lottery was established. Exhibit A-4 also shows casino and lottery revenues. The trends are:

- Casino handle exceeded lottery sales from the first year of casino operations. The dominance of casino sales has steadily increased; they are now about 20 times lottery sales.
- Lottery handle has increased every year since the start of casino operations.
- Lottery sales grew 77% in Fiscal 1990, due to the introduction of on-line lotto. In Fiscal 1995, lottery sales increased 23% due to increased lotto sales.
- In the first full year of casino operations, casino revenues overtook lottery revenues. Casino revenues have grown steadily, although the rate of growth has slowed, from 44% in calendar 1993, to 25% in 1994, to 18% in 1995.
- Lottery revenues increased substantially (27.1%) in FY 1995, corresponding to the increase in lottery sales.

Connecticut Sales and Revenues

Casino gambling in Connecticut began in February 1992, when the Mashantucket Pequot Tribe opened its Foxwoods casino. Only table games were allowed until January 1993, when the Tribe agreed to pay a percentage of slot machine revenues to the state in exchange for the exclusive right to operate such devices in Connecticut. Two major casino expansions were completed in September 1993 and June 1994. From the outset, the casino has been capacity constrained.

The Lottery began operations in February 1972; the lottery was mature when Foxwoods opened.

Since Foxwoods contributes to state coffers, public information on slot machine win is available. Using this information, we are able to estimate wagering on table games and total handle and revenue.

Exhibit A-5 shows lottery data from FY 1983 and casino data from calendar 1993. The exhibit shows:

- From the outset, casino handle dwarfed lottery handle. Calendar 1995 casino handle was more than twenty times FY 1995 lottery handle.
- Lottery sales were basically flat from Fiscal 1991 through Fiscal 1994, ranging from a decline of 0.1% to an increase of 2.4%.
- Lottery sales increased 21.4% in FY 1995, due to increased instant game sales.
- Casino revenue growth has outpaced lottery revenue growth from the outset. In calendar 1995, casino revenues were about four times as large as FY 1995 lottery revenues.
- Casino revenues grew strongly during 1994 and 1995. The 22.0% growth in win in 1995, however, is not far above the 17% growth in lottery win in FY 1995.

Missouri Sales and Revenues

Missouri launched riverboat casino gambling in May 1993. Until November, 1994, these boats were limited to "games of skill" (poker and craps, as curiously defined by the Missouri courts), and were not very successful. A referendum then permitted "games of chance," such as slot machines, and substantial growth began. At present, seven riverboats operate in Missouri.

The Missouri Lottery started in June 1987, and was relatively mature when casino gambling was introduced.

Exhibit A-6 shows lottery data from start-up in FY 1986 and casino data from calendar 1994. The major trends are:

- Casino sales exceeded lottery handle from the outset.
- Casino sales for calendar 1995 were about twenty times FY 1995 lottery sales.
- The Missouri Lottery's sales have grown since the introduction of casino gambling. FY 1995 lottery sales increased 17.7% over FY 1994.
- Casino revenues surpassed lottery revenues in the first full year of casino operations. Calendar 1995 casino revenues were about three times FY 1995 lottery revenues.

Ontario Sales and Revenues

Casino gambling in the Canadian province of Ontario began in May 1994. There are two casinos in the town of Windsor, which draws from the Detroit metropolitan area. The first, Windsor Casino, opened in May, 1994; the second, the Northern Belle Riverboat Casino, opened in December 1995.

The Ontario Lottery was incorporated in 1975, and was mature when casino gambling was introduced.

Exhibit A-7 shows lottery sales and revenues since fiscal year 1990 and casino revenues for 1994 and 1995. Casino revenues were all generated by the Windsor Casino; Northern Belle revenues began in fiscal year 1996. Casino handle is not available. The exhibit shows:

- Lottery sales have increased every year since 1990, but showed especially strong growth in 1993 (18%) and 1994 (13%).²⁸ Sales growth slowed to 3% in 1995, the first (partial) year of casino operations.
- Lottery revenues have also increased every year since 1990; revenue growth also slowed from 17% in 1993 and 10% in 1994 to 4% in 1995.

In fiscal year 1995, casino revenues were 43% of lottery revenues; the Windsor casino operated for about nine and a half months during FY 1995.²⁹

Sales and Revenues: Lotteries and American Indian Casinos

This analysis focuses on the four states where Native American Indian tribes have officially compacted with their host state to operate Class III casinos that offer consumers a full assortment of table and slot machine games. These states are Minnesota, Wisconsin, Arizona, and Michigan.

Casino sales and revenues are *not* available, since these casinos operate on American Indian sovereign territories. Nonetheless, we can analyze lottery sales and revenues. Exhibit A-8 presents sales and revenue data for the lotteries in Minnesota, Wisconsin, Arizona, and Michigan.

Minnesota Lottery Sales and Revenues

In Minnesota, the compact to operate video gaming devices was signed in March 1990. A second compact covering blackjack was signed in 1991. The first Class II casinos began operating in 1983. At present, 11 tribes are operating 16 casinos in Minnesota.

The Minnesota Lottery started up in April, 1990. Thus, the lottery started almost simultaneously with official (Class III, compacted) casino gambling.

Minnesota lottery sales and revenues are shown in Exhibit A-8. The trends are:

²⁸ Fiscal year 1994 was the last full year of lottery operations before the Windsor casino opened. Canadian lotteries end their fiscal years on 3/31.

²⁹ Windsor Casino was closed from March 9 through April 5 due to striking workers.

- Lottery sales grew significantly in FY 1991, but this is because FY 1990 includes only two months of sales. Since FY 1991, sales have been basically flat. (The 7% drop in FY 1992 was balanced by the 10% increase in FY 1993.)
- Revenues have followed the same pattern as sales and have been relatively constant since lottery start up.

Wisconsin Lottery Sales and Revenues

State compacts with tribes were approved in January 1992. At present, 11 tribes operate 18 Class III casinos.

The Wisconsin Lottery started in September 1988. Thus, the lottery was just beginning to mature when the casinos officially began operations.

Wisconsin lottery sales and revenues are shown in Exhibit A-8. The trends are:

- Wisconsin lottery sales increased at a decreasing rate through FY 1994. Sales in Fiscal 1995 grew 5%.
- Lottery revenues increased from FY 1990 through FY 1994. FY 1994 had the smallest increase (5%) to date. FY 1995 revenues decreased very slightly.

Arizona Lottery Sales and Revenues

As of mid-1995, 16 tribes in Arizona operated Class III casinos. Compacts were signed in July 1992, although casinos were operating unofficially before then.

The Arizona Lottery started in July 1981 and was mature when casinos opened.

Exhibit A-8 presents sales and revenue information and shows:

- Arizona lottery sales grew from Fiscal 1984 through Fiscal 1990, then fell 20% in Fiscal 1991. Sales have since remained below their FY 1990 level (\$288 million).
- Arizona lottery revenues have followed the same pattern as sales. In FY 1990, the lottery generated state profits of \$151 million. Revenues have fallen below this figure for the last five years.

Michigan Lottery Sales and Revenues

The first Class II casino in Michigan opened in 1984. Six (presumably) Class II casinos were operating prior to the compacting process. The state and tribes signed compacts in November 1993. Seven tribes are currently operating eight casinos.

The Michigan Lottery started up in November 1972. The lottery was fully mature when casinos began operations.

Exhibit A-8 presents lottery sales and revenue data and shows:

- After the compacts were signed, Michigan lottery sales increased 15% in Fiscal 1994 and were flat in Fiscal 1995.
- Revenues, up 31% in FY 1994, dropped 6% in FY 1995.

4.3 Traditional Lottery Sales Trends, by Game, in Casino Jurisdictions

We now examine lottery sales, by game, in jurisdictions with casinos.³⁰ Analysis covers total sales and sales of instant games, numbers games, and lotto.

Total Sales

Table 4-2 summarizes sales trends for total lottery sales for ten of the eleven jurisdictions with casinos.³¹

The second row of the table lists the month and year casino operations began (IA, IL, CO, CT, MO, ONT) or the month and year in which states signed compacts with Native American Indian Tribes (MN, WI, AZ, MI). The third row of the table lists the last full fiscal year in which each lottery operated before casino gambling commenced. For example, the Iowa Lottery had no casino competition through the end of FY 1990 (ending June 30, 1990). Sales for FY 1990 (Year 0) decreased 2%, clearly unrelated to (non-existent) casinos. Casinos opened in April 1991, so

³⁰ Many variables affect the relationship between lottery sales and casino sales. The age of the lottery, the strength of the lottery's product portfolio, the number of casinos, the location of the casinos, the speed with which new casinos open, and the month in which casino operations began may all affect lottery sales.

The first year of operations of any new gambling activity almost always includes fewer than twelve calendar months; thus, the growth of sales during the second calendar year of operations (that is, the first full year) appears extremely high, since twelve months of sales are compared with only three or four or five months of sales in the start-up year.

³¹ The age and breadth of the casino industry in Atlantic City differentiate New Jersey from the other ten casino jurisdictions. New Jersey casino sales are examined further in Section 4 of this chapter.

offered competition for the last three months of FY 1991; FY 1991 sales dropped 6%. In Year 2, the second fiscal year in which casinos were operating, total Iowa Lottery sales increased 5%.

The presentation of data in this manner allows us to examine total lottery sales across all jurisdictions for one, two, three, four, or five years after casino gambling began.

Table 4-2
Trends in Total Lottery Sales after Casinos

	IA	IL	CO	CT	MO	ONT	MN	WI	AZ	MI
Casino Start	Apr-91	Sep-91	Oct-91	Feb-92	May-93	May-94	Mar-90	Jan-92	Jul-92	Nov-93
Lottery Base Year	1990	1991	1991	1991	1992	1994	1990	1991	1992	1993
Change	Year 0	-2%	-1%	33%	1%	2%	13%	N/A	28%	8%
	Year 1	-6%	8%	29%	2%	17%	3%	374%	13%	4%
	Year 2	5%	-8%	10%	2%	36%		-7%	9%	-4%
	Year 3	24%	1%	9%	0%	18%		10%	1%	15%
	Year 4	1%	7%	23%	21%			1%	5%	
	Year 5	0%						1%		

No clear pattern of sales increases or decreases emerges. However, during Year 2, which represents the first full, twelve month year of operations after casino start up for all lotteries:

- Total lottery sales in three lotteries decreased (IL 8%, MN 7%, AZ 4%).
- Sales in one lottery were flat (MI 0%).
- Sales in three lotteries grew 5% or less (CT 2%, IA 5%, ONT 3%).
- Sales in three lotteries had good growth (CO 10%, MO 36%, WI 9%).
- The growth rate of sales in four lotteries (IA, CO, WI, AZ) was lower than the growth rate in the base year.

During Year 3,

- Sales of three of eight lotteries with three casino years were flat (IL, CT, WI).
- Lottery sales in the other five states increased between 9% and 24%.

During Year 4,

- Four of the six states with four years of casino competition grew sales (IL 7%, CO 23%, CT 21%, WI 5%).
- Sales in two states were basically flat (IA, MN).

None of these ten jurisdictions has had consistent decreases in total lottery sales since the start of casino gambling.

Another way to evaluate lottery sales is to compare per capita sales across U.S. jurisdictions.³² Table 4-3 shows Fiscal Year 1995 per capita lottery sales.

Two states with casinos (CT, MI) have higher than average per capita sales and are in the top third of states. One state (IL) has average sales. The remaining six states (IA, CO, MO, MN, WI, AZ) have lower than average per capita sales.

The bottom lines of Table 4-3 show that (a) average FY 1995 per capita U.S. lottery sales were \$140, (b) average per capita sales in states *with* casinos were \$124, and (c) average per capita sales in states *without* casinos were \$149. Per capita sales were 20.2% higher in states without casinos.

Table 4-3
1995 Per Capita Total Lottery Sales

	Per Capita Sales	National Rank
Iowa	\$74	27/35
Illinois	\$139	14/35
Colorado	\$95	22/35
Connecticut	\$203	4/35
Missouri	\$78	25/35
Minnesota	\$73	28/35
Wisconsin	\$102	21/35
Arizona	\$70	31/35
Michigan	\$150	12/35
U.S. Average	\$140	
Average Casino States	\$124	
Average Lottery Only States	\$149	

Instant Games

All ten lotteries sell instant tickets. Table 4-4 shows trends in annual instant games sales.

³² Ontario per capita sales are provided in \$C; comparison across currencies is not appropriate.

Table 4-4
Trends in Instant Game Sales after Casinos

	IA	IL	CO	CT	MO	ONT	MN	WI	AZ	MI	
Casino Start	Apr-91	Sep-91	Oct-91	Feb-92	May-93	May-94	Mar-90	Jan-92	Jul-92	Nov-93	
Lottery Base FY	1990	1991	1991	1991	1992	1994	1990	1991	1992	1993	
Change	Year 0	-6%	6%	-16%	27%	-11%	31%		32%	14%	10%
	Year 1	11%	12%	-12%	0%	19%	12%	267%	30%	16%	50%
	Year 2	14%	22%	100%	-8%	35%		-17%	8%	-5%	1%
	Year 3	13%	16%	41%	48%	19%		8%	-8%	23%	
	Year 4	3%	28%	9%	59%			-8%	13%		
	Year 5	5%						1%			

During Year 2, the first twelve month year after casino start up:

- Instant ticket sales had strong to very strong increases in five of the nine eligible lotteries (IA 14%, IL 22%, CO 100%, MO 35%, WI 8%).
- Sales in one lottery were flat (MI 1%).
- Sales in three lotteries decreased (CT 8%, MN 17%, AZ 5%).

During Year 3, of the eight lotteries with three years of casino competition:

- Six lotteries had double digit instant ticket sales increases (IA, IL, CO, CT, MO, AZ), and one lottery had 8% growth (WI).
- Only Wisconsin lost instant ticket sales (8%).

During Year 4,

- Five of the six eligible states had sales increases ranging between 3% and 59%.
- Only Minnesota lost sales (8%).

In summary, none of these lotteries has suffered consistent decreases in instant ticket sales since the start of casino gambling. Sales of instant sales do, however, appear to decrease in some jurisdictions (three of nine) as casino operations begin.

Table 4-5 shows FY 1995 per capita instant ticket sales for U.S. jurisdictions.

Table 4-5
1995 Per Capita Instant Game Sales

	Per Capita Sales	National Rank
Iowa	\$37	18/35
Illinois	\$54	10/35
Colorado	\$49	12/35
Connecticut	\$79	5/35
Missouri	\$35	21/35
Minnesota	\$45	13/35
Wisconsin	\$61	8/35
Arizona	\$19	33/35
Michigan	\$45	14/35
U.S. Average	\$52	
Average Casino States	\$45	
Average Lottery Only States	\$56	

Two states (CT, WI) with casinos have higher than average per capita sales and are in the top third of U.S. performers. Three states (IL, CO, MI) have average to just below average per capita sales and rank in the middle third of states. The remaining four states (IA, MO, MN, AZ) have lower than average per capita sales.

Table 4-5 shows that (a) average FY 1995 per capita U.S. instant ticket sales were \$52, (b) average per capita sales in states *with* casinos were \$45, and (c) average per capita sales in states *without* casinos were \$56. Per capita sales were 24.4% higher in states without casinos.

Numbers Games

Only seven of the lotteries under analysis sell numbers games. Table 4-6 shows their annual sales growth or decline.

During Year 2 after casino start-up:

- Numbers games sales decreased in two of five eligible jurisdictions selling this game. The decline in Minnesota (23%) is unusual, since the game was introduced during the previous year. Lottery games usually show dramatic growth in their first one or two years of sales. Minnesota introduced its numbers game *after* casinos were operating. Numbers game sales also dropped (2%) in Illinois, where the game was mature.
- Sales in the other three lotteries increased (CT 6%, MO 12%, MI 3%).

During Year 3, of the five lotteries with three years of casino competition:

- Sales in three (IL, CT, MN) decreased slightly (1% to 2%).
- Two jurisdictions had sales increases (MO 7%, WI 32%).

During Year 4,

- Two of the four eligible lotteries lost sales (CT 5%, MN 7%).
- Growth of Minnesota's new numbers game slowed to 3%, which is a low growth rate for a new lottery game.

Table 4-6
Trends in Numbers Games Sales after Casinos

	IL	CT	MO	ONT	MN	WI	MI
Casino Start	Sep-91	Feb-92	May-93	May-94	Mar-90	Jan-92	Nov-93
Lottery Base FY	1991	1991	1992	1994	1990	1991	1993
Change	Year 0	-4%	-3%	21%	10%	*	6%
	Year 1	-1%	2%	16%	10%	*	6%
	Year 2	-2%	6%	12%		-23%	*
	Year 3	-2%	-1%	7%		-1%	32%
	Year 4	6%	-5%			-7%	3%
	Year 5					-10%	

* Minnesota did not launch numbers until Fiscal 1991; thus, the first annual change is entered for Year 2 after casinos. Wisconsin did not launch numbers until Fiscal 1993; the first annual change is for Year 4 after casinos.

In summary, casinos may have contributed to minor erosion of numbers games sales in Illinois and Connecticut. Also, competition from casinos may have hindered the game from developing a strong consumer franchise in Minnesota and Wisconsin.

Table 4-7 shows FY 1995 per capita instant ticket sales for the relevant U.S. lotteries.

Two states (CT, MI) were well above the norm and in the top third of states. One state (IL) is about average. The remaining three states (MO, MN, WI) were in the bottom third of states in terms of their per capita dollar sales.

Table 4-7 also shows that average FY 1995 per capita numbers games sales for all jurisdictions were \$44, average per capita sales in states *with* casinos were \$42, and average per capita sales in states *without* casinos were \$50. Per capita sales were 42.9% higher in states without casinos.

Table 4-7
FY 1995 Per Capita Numbers Games Sales

	Per Capita Sales	National Rank
Illinois	\$41	13/28
Connecticut	\$59	10/27
Missouri	\$8	22/28
Minnesota	\$3	18/28
Wisconsin	\$6	25/28
Michigan	\$67	8/28
U.S. Average	\$44	
Average Casino States	\$42	
Average Lottery Only States	\$60	

Lotto Games

The lotteries in all ten casino jurisdictions sell lotto games. Table 4-8 shows annual sales trends for lotto.

Table 4-8
Trends in Lotto Sales after Casinos

	IA	IL	CO	CT	MO	ONT	MN	WI	AZ	MI
Casino Start	Apr-91	Sep-91	Oct-91	Feb-92	May-93	May-94	Mar-90	Jan-92	Jul-92	Nov-93
Lottery Base FY	1990	1991	1991	1991	1992	1994	1990	1991	1992	1993
Change	Year 0	3%	-1%	98%	-6%	16%	1%	27%	6%	-7%
	Year 1	-24%	4%	52%	4%	11%	5%	-1%	0%	-21%
	Year 2	-9%	-18%	-19%	3%	37%		46%	-3%	-4%
	Year 3	30%	-15%	-17%	-22%	20%		20%	17%	13%
	Year 4	-2%	-2%	41%	17%			24%	-7%	
	Year 5	-2%						3%		

Overall:

- Iowa, Illinois, Colorado, and Wisconsin have had rather consistent decreases in sales. From Year 2 forward, Iowa had lotto sales decreases in three of four years, Illinois in three of three years, Colorado in two of three years, and Wisconsin in two of three years.
- Connecticut also had decreases in one of three years, and Arizona in one of two years.

- Ontario sales increased 5% in the year casinos debuted.

In Year 2,

- Five lotteries (IA 9%, IL 18%, CO 19%, WI 3%, AZ 4%) had sales declines.
- Four lotteries (CT 3%, MO 37%, MN 46%, MI 11%) had sales increases.

In Year 3,

- Three lotteries lost sales: Illinois (15%) and Colorado (17%) continued relatively strong declines. Connecticut sales also fell sharply (22%).
- Sales in Iowa (30%), Wisconsin (17%), and Arizona (13%) all rebounded from declines in Year 2.

In Year 4,

- Three states had sales decreases (IA 2%, IL 2%, WI 7%).
- Three states had strong sales increases (CO 41%, CT 17%, MN 24%).

In summary, roughly half of the jurisdictions with casinos experienced sales declines after casinos opened.

Table 4-9 displays FY 1995 per capita sales for lotto.

Table 4-9
FY 1995 Per Capita Lotto Sales

	Per Capita Sales	National Rank
Iowa	\$25	33/35
Illinois	\$44	14/35
Colorado	\$46	15/35
Connecticut	\$65	5/35
Missouri	\$30	27/35
Minnesota	\$25	35/35
Wisconsin	\$33	24/35
Arizona	\$51	10/35
Michigan	\$36	20/35
U.S. Average	\$47	
Average Casino States	\$43	
Average Lottery Only States	\$50	

Two states (CT, AZ) were above the norm and in the top third of all state lotteries. Two states (IL, CO) were about average. The remaining five states (IA, MO, MN, WI, MI) were below average.

Table 4-9 shows that average FY 1995 per capita U.S. lotto sales were \$47, average per capita sales in states *with* casinos were \$43, and average per capita sales in states *without* casinos were \$50. Per capita sales were 16.3% higher in states without casinos.

4.4 Traditional Lottery Sales Trends, by Game, in Selected States

New Jersey, New York, and Pennsylvania

Since casinos draw players from outside their home state, it is instructive to examine lottery sales trends in New Jersey, New York, and Pennsylvania after the introduction of casino gambling in Atlantic City in May 1978. Table 4-10 shows total lottery sales in these three states from Fiscal Year 1977, the last full fiscal year in which there was no competition from casinos. In FY 1978, lotteries operated without casino competition for ten months. FY 1979 was the first full year of casino competition.

**Table 4-10
Total Sales FY 1977-FY 1981**

	NJ		NY		PA	
	Sales	Change	Sales	Change	Sales	Change
1977	194.0		196.5		151.7	
1978	238.3	22.8%	95.8	-51.2%	295.4	94.7%
1979	297.9	25.0%	188.1	96.3%	351.4	19.0%
1980	348.6	17.0%	184.6	-1.9%	387.4	10.2%
1981	417.0	19.6%	236.2	28.0%	427.0	10.2%

Both New Jersey and Pennsylvania had strong sales increases during all years. New York's lottery sales decreased 51.2 % in 1978 and 1.9% in 1980. However, lotteries were undergoing dramatic changes in their structure and in their product portfolios during the mid- to late-1970s. New York first sold instant tickets in 1977, so the 51% sales decrease may have been due to leveling typical of instant ticket sales after the first one or two games are sold. States were also

eliminating old weekly-draw “passive” games³³ with fixed (non-jackpot) prizes. Also, on-line systems made their debut. New Jersey installed the first on-line system and introduced the first on-line numbers game in 1975, and New York introduced the first on-line lotto game in 1980. Thus, the 51% sales decrease in New York and the sales increases in New Jersey and Pennsylvania were likely the result of the interaction of all these factors. No clear relationship to Atlantic City casino handle emerges.

Table 4-11 presents New Jersey, New York, and Pennsylvania instant ticket sales from FY 1977 through FY 1981. Sales in FY 1981 are lower than or equal to FY 1978 sales in all three states.

**Table 4-11
Instant Game Sales FY 1977-FY 1981**

	NJ		NY		PA	
	Sales	Change	Sales	Change	Sales	Change
1977	62.6		186.9		47.3	
1978	44.4	-29.1%	155.4	-16.9%	62.0	31.1%
1979	35.4	-20.3%	155.7	0.2%	64.0	3.2%
1980	16.7	-52.8%	118.8	-23.7%	72.2	12.8%
1981	34.3	105.4%	92.9	-21.8%	64.0	-11.4%

Table 4-12 shows numbers game sales for New Jersey and Pennsylvania. (New York did not introduce on-line games until Fiscal 1981.) Numbers game sales in both states increased steadily, due largely to the expansion of the on-line systems.

**Table 4-12
Numbers Game Sales FY 1977-FY 1981**

	NJ		NY		PA	
	Sales	Change	Sales	Change	Sales	Change
1977	98.3				42.9	
1978	167.9	70.8%			187.6	337.3%
1979	236.6	40.9%			247.5	31.9%
1980	305.3	29.0%			288.0	16.4%
1981	349.9	14.6%	65.4		342.4	18.9%

³³ Passive games use paper tickets with pre-printed numbers. A winning ticket is drawn at the conclusion of a sales period. These are “off-line” games. They are termed “passive,” since players do not actively select their own numbers.

Lotto games sales are not examined, since lotto was not introduced until 1979 (NY), 1980 (NJ), and 1981 (PA).

Lastly, looking to the present day, Table 4-13 displays FY 1995 per capita sales and shows:

- New Jersey (\$199) and New York (\$166) ranked in the top third of state lotteries for total per capita sales. Pennsylvania ranked dead center (18/35).
- All three lotteries had weak instant ticket sales; all ranked in the bottom half of lotteries and had below average per capita sales.
- These three lotteries had very strong numbers games sales; all ranked in the top third of states selling numbers games.
- Lotto sales were strong in New Jersey and New York, which ranked in the top sixth of all states. Pennsylvania's per capita lotto sales were low.

Table 4-13
FY 1995 Per Capita Sales

	Total	Rank	Instant	Rank	Numbers	Rank	Lotto	Rank
NJ	\$199	9/35	\$34	23/35	\$93	3/28	\$72	3/35
NY	\$166	12/35	\$37	19/35	\$61	9/28	\$64	6/35
PA	\$132	19/35	\$26	27/35	\$73	6/28	\$30	26/35
US Average	\$140		\$52		\$43		\$47	

In summary, no clear patterns for lottery sales emerge for New Jersey, New York, and Pennsylvania for the time Atlantic City casinos opened. During FY 1995, these states all had weak instant ticket sales and strong numbers game sales. Lotto sales were strong in New Jersey and New York but weak in Pennsylvania.

Illinois and Ohio

Lotteries in Illinois and Ohio are equally mature lotteries that share the same product portfolio.³⁴ A primary difference between them is casino gambling: Illinois has had casinos since September 1991, but Ohio has no casinos. We compare recent lottery sales in these two states, using Ohio as a rough "control group."

³⁴ Illinois and Ohio were included in the Chapter 3 group of comparable (mature, non-rural) state lotteries whose performance was compared with the performance of the MSLC.

Fiscal Year 1991 (ending June 30) was the last year in which the Illinois Lottery had no casino competition. Table 4-14 shows total lottery sales from the 1991 base year for both Illinois and Ohio.

Table 4-14
Total Sales Trends FY 1992-1995

FY	IL Sales	OH Sales	
	Change	Change	
1991	1513.1	1564.5	
1992	1636.9	1685.4	7.7%
1993	1507.0	1976.5	17.3%
1994	1528.6	1920.0	-2.9%
1995	1629.6	2182.2	13.7%
Change 95 vs. 91		7.7%	39.5%

No clear trend is immediately evident. Illinois sales decreased in only one year (FY 1993), and Ohio sales decreased in one year (FY 1994). However, examining lottery sales growth from FY 1991 to FY 1995, total Illinois sales grew only 7.7% compared with Ohio's growth of 39.5%. Ohio's lottery sales increased five times as much as Illinois' lottery sales. Stated differently, over the four years, Illinois' average rate of growth was 2.1% per year versus 9.0% for Ohio.

Table 4-15 shows instant ticket sales for the two states.

Table 4-15
Instant Games Sales Trends

FY	IL Sales	OH Sales	
	Change	Change	
1991	311.2	526.3	
1992	348.4	584.2	11.0%
1993	424.3	775.7	32.8%
1994	492.7	863.9	11.4%
1995	630.8	1032.8	19.6%
Change 95 vs. 91		102.7%	96.2%

Both lotteries have had strong consistent annual increases in instant ticket sales. Indeed, both doubled instant sales over the last five years. No cross-state difference is evident in instant ticket sales trends.

Table 4-16 presents data for number games.

**Table 4-16
Numbers Games Sales Trends**

FY	IL Sales	IL Change	OH Sales	OH Change
1991	478.4		490.8	
1992	474.4	-0.8%	496.5	1.2%
1993	462.9	-2.4%	519.3	4.6%
1994	454.2	-1.9%	513.0	-1.2%
1995	482.1	6.1%	548.0	6.8%
Change 95 vs. 91	0.7%		11.7%	

At first glance, the two sales trends do not look markedly different. Only single-digit increases and decreases occurred in both states. But cumulatively, Ohio numbers game sales increased 11.7% versus a 0.7% increase in Illinois. Ohio's numbers game sales grew fifteen times as much as Illinois' sales.

Table 4-17 shows lotto sales trends.

**Table 4-17
Lotto Sales Trends**

FY	IL Sales	IL Change	OH Sales	OH Change
1991	724.4		451.4	
1992	756.5	4.4%	525.7	16.5%
1993	619.8	-18.1%	615.9	17.2%
1994	525.7	-15.2%	488.2	-20.7%
1995	516.7	-1.7%	538.2	10.2%
Change 95 vs. 91		-28.7%		19.2%

Ohio lotto games have performed better than Illinois lotto games. Illinois sales consistently decreased, while Ohio sales grew in three years and decreased 20.7% in one year. Over the four year period, however, Ohio lotto sales increased 19.2% compared with Illinois' decline of 28.7%.

Lastly, Table 4-18 compares FY 1995 per capita sales for all games. Ohio out-sold Illinois on *all* games.

Table 4-18
FY 1995 Per Capita Sales

	Total	Rank	Instant	Rank	Numbers	Rank	Lotto	Rank
IL	\$138	14/35	\$54	10/35	\$41	13/28	\$44	14/35
OH	\$197	11/35	\$93	3/35	\$49	12/28	\$49	11/35
US Average	\$140		\$52		\$43		\$47	

Comparison of Massachusetts and Connecticut

Fiscal Year 1991 (ending June 30) was the last year in which the Connecticut Lottery had no casino competition. Foxwoods opened in February 1992 (FY 1992). Table 4-19 shows total lottery sales from the 1991 base year for both Connecticut and Massachusetts.

Table 4-19
Sales Trends FY 1991-1995

FY	CT Sales	CT Change	MA Sales	MA Change
1991	531.2		1,587.2	
1992	543.9	2.4%	1,713.2	7.9%
1993	552.6	1.6%	2,012.5	17.5%
1994	552.3	-0.1%	2,449.8	21.7%
1995	670.6	21.4%	2,793.2	14.0%
Change 95 vs. 91		26.2%		76.0%

MSLC total sales increased strongly every year, while Connecticut sales were flat from FY 1991 through FY 1995. From FY 1991 to FY 1995, Connecticut sales grew 26.2% compared with Massachusetts growth of 76.0%. Massachusetts lottery sales increased three times as much as Connecticut lottery sales. Over the four years, Connecticut's average rate of growth was 6.3% versus 19.0% for Massachusetts.

Table 4-20 shows instant ticket sales since FY 1991.

**Table 4-20
Instant Games Sales Trends**

FY	CT Sales	CT Change	MA Sales	MA Change
1991	120.1		746.7	
1992	119.8	-0.2%	895.8	20.0%
1993	110.2	-8.0%	1,211.1	35.2%
1994	163.4	48.3%	1,591.7	31.4%
1995	260.1	59.2%	1,793.8	12.7%
Change 95 vs. 91		116.6%		140.2%

Massachusetts instant ticket sales increased significantly every year. Connecticut sales decreased in FY 1992 and FY 1993, but increased substantially in FY 1994 and FY 1995. Massachusetts sales increased 140.2% over the four year period. This was 1.2 times Connecticut's growth of 116.6%.

Table 4-21 presents data for number games.

**Table 4-21
Numbers Games Sales Trends**

FY	CT Sales	CT Change	MA Sales	MA Change
1991	191.6		462.3	
1992	195.2	1.9%	444.6	-3.8%
1993	206.5	5.8%	437.5	-1.6%
1994	204.5	-1.0%	431.5	-1.4%
1995	195.1	-4.6%	414.5	-3.9%
Change 95 vs. 91		1.8%		-10.3%

Connecticut numbers games sales increased in FY 1992 and FY 1993 but dropped in FY 1993 and FY 1994. Massachusetts sales decreased every year. Over the four year period, Connecticut numbers games sales increased 1.8%, while Massachusetts sales dropped 10.3%.

Table 4-22 shows lotto sales trends.

**Table 4-22
Lotto Sales Trends**

FY	CT Sales	CT Change	MA Sales	MA Change
1991	219.5		378.2	
1992	228.9	4.3%	371.2	-1.9%
1993	235.9	3.1%	358.0	-3.6%
1994	184.4	-21.8%	355.1	-0.8%
1995	215.4	16.8%	280.5	-21.0%
Change 95 vs. 91		-1.9%		-25.8%

While Massachusetts lotto sales decreased every year; the FY 1995 decrease was particularly severe. Connecticut sales grew slightly in FY 1992 and 1993, then dropped 21.8% in FY 1994. Sales rebounded 16.8% in FY 1995.

Overall, Massachusetts lotto sales decreased 25.8% over the four-year period, and Connecticut lotto sales decreased 1.9%.

Lastly, Table 4-23 presents FY 1995 per capita sales.

**Table 4-23
FY 1995 Per Capita Sales**

	Total	Rank	Instant	Rank	Numbers	Rank	Lotto	Rank
MA	\$466	1/35	\$299	1/35	\$69	7/28	\$47	13/35
CT	\$203	4/35	\$79	5/35	\$59	10/28	\$65	5/35
US Average	\$140		\$52		\$43		\$47	

Massachusetts per capita sales were higher for total sales, instant games, and numbers games. Connecticut had higher per capita lotto sales.

4.5 Massachusetts Geographic Analysis

We now assess the impacts of Foxwoods Casino, which opened in January 1992, on Massachusetts lottery sales by county.

Table 4-24 shows FY 1995 lottery sales by game by county. Counties are listed in order of decreasing distance from Foxwoods. Table 4-25 shows county sales for FY 1991, the last full year of lottery sales prior to Foxwood's opening.

Table 4-26 displays the percentage change in sales, by game and in total, for FY 1995 compared with FY 1991.

Table 4-24
FY 1995 Lottery Sales by County*

County	Miles	95 Instant	95 Numbers	95 Lotto	95 Keno	95 Total
Cape&Islands	100	\$58,302,067	\$10,361,983	\$9,636,762	\$17,239,142	\$95,539,954
Essex	97	198,843,663	39,681,871	35,154,784	38,089,449	311,769,767
Berkshire	96	38,530,796	3,284,599	4,524,191	4,331,777	50,671,363
Franklin	85	17,013,917	1,873,288	2,311,797	813,655	22,012,657
Middlesex	80	355,983,869	88,735,202	62,063,246	64,738,383	571,520,699
Suffolk	78	227,925,459	101,901,029	34,403,764	36,456,940	400,687,192
Plymouth	72	119,313,108	26,104,391	18,917,935	24,679,311	189,014,745
Norfolk	69	167,053,313	40,641,054	30,071,286	29,524,009	267,289,662
Hampshire	68	30,871,673	4,624,093	4,280,394	2,765,469	42,541,629
Worcester	61	220,296,698	36,369,927	30,197,915	34,201,405	321,065,945
Hampden	57	127,884,723	32,700,850	21,030,266	24,478,466	206,094,305
Bristol	52	173,963,611	25,968,357	24,583,162	21,005,291	245,520,421
Total		1,735,982,897	412,246,644	277,175,502	298,323,297	2,723,728,339

* excludes sales for which the county of origin cannot be specified

Table 4-25
FY 1991 Lottery Sales by County

County	Miles	91 Instant	91 Numbers	91 Lotto	91 Keno	FY91 TOTAL
Cape & Islands	100	\$25,055,682	\$12,195,456	\$11,650,808	0	\$48,901,946
Essex	97	80,680,443	39,993,200	45,264,960	0	165,938,603
Berkshire	96	19,214,229	3,849,456	5,720,468	0	28,784,153
Franklin	85	6,921,787	1,914,276	2,764,320	0	11,600,383
Middlesex	80	151,013,055	94,067,428	78,195,728	0	323,276,211
Suffolk	78	71,248,781	86,561,540	32,266,000	0	190,076,321
Plymouth	72	70,192,228	26,755,664	23,756,408	0	120,704,300
Norfolk	69	61,439,473	43,313,452	38,144,132	0	142,897,057
Hampshire	68	14,030,424	4,618,276	9,015,760	0	27,664,460
Worcester	61	99,658,561	40,609,712	43,721,288	0	183,989,561
Hampden	57	63,864,855	34,022,300	26,808,236	0	124,695,391
Bristol	52	83,342,483	26,865,124	36,521,836	0	146,729,443
Total		\$746,662,000	\$414,765,884	\$353,829,944	0	\$1,515,257,828

* excludes sales for which the county of origin cannot be specified

Table 4-26
Change in Sales by County: FY 1995 v. FY 1991*

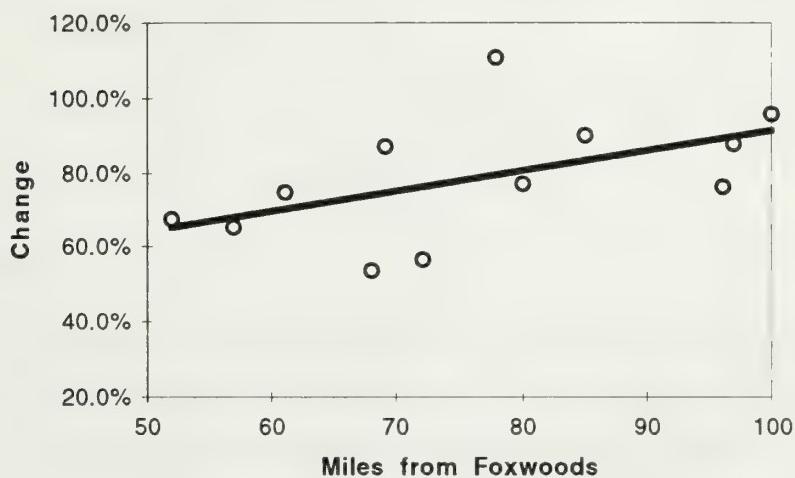
County	Miles	Instant	Numbers	Lotto	Keno	Total
Cape&Islands	100	132.7%	-15.0%	-17.3%	n/a	95.4%
Essex	97	146.5%	-0.8%	-22.3%	n/a	87.9%
Berkshire	96	100.5%	-14.7%	-20.9%	n/a	76.0%
Franklin	85	145.8%	-2.1%	-16.4%	n/a	89.8%
Middlesex	80	135.7%	-5.7%	-20.6%	n/a	76.8%
Suffolk	78	219.9%	17.7%	6.6%	n/a	110.8%
Plymouth	72	70.0%	-2.4%	-20.4%	n/a	56.6%
Norfolk	69	171.9%	-6.2%	-21.2%	n/a	87.1%
Hampshire	68	120.0%	0.1%	-52.5%	n/a	53.8%
Worcester	61	121.1%	-10.4%	-30.9%	n/a	74.5%
Hampden	57	100.2%	-3.9%	-21.6%	n/a	65.3%
Bristol	52	108.7%	-3.3%	-32.7%	n/a	67.3%
Total		132.5%	-0.6%	-21.7%	n/a	79.8%

Total Sales

Table 4-26 shows that total lottery sales increased in all counties from FY 1991 to FY 1995. Sales growth ranged from a high of 110.8% (Suffolk) to a low of 53.8% (Plymouth). The aggregate rate of growth for the State as a whole was 79.8%.

Figures 4-1 presents a graph of the percentage changes in each county's total lottery sales (as displayed in Table 4-26) against average county distance from Foxwoods. The figure shows an upward trend: the more distant a county is from Foxwoods, on average, the higher is its rate of growth. Conversely, the closer to Foxwoods, the lower the rate of growth.

Figure 4-1
Line Graph of Change in Total Lottery Sales: FY 91 v. FY 95

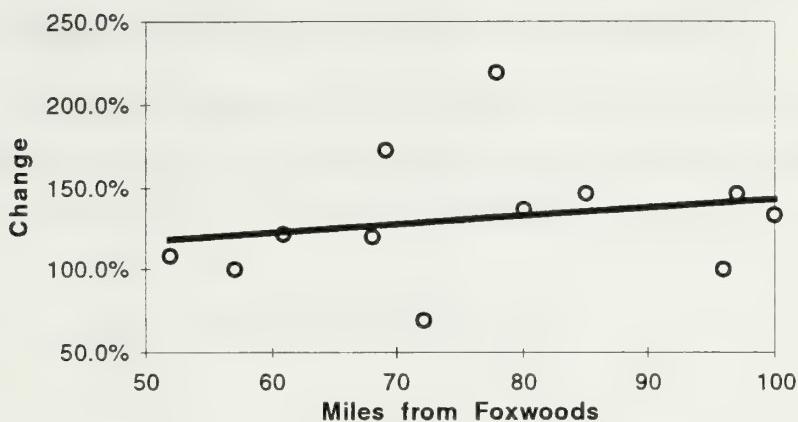


Instant Tickets

Table 4-26 shows that Instant game sales increased in all counties from FY 1991 to FY 1995. Sales growth ranged from a high of 219.9% (Suffolk) to a low of 70.0% (Plymouth). The aggregate rate of growth statewide was 132.5%. As we discussed in Chapter 2, Instant games have been the only Massachusetts Lottery product that have displayed any vigorous growth in recent years: Instant games were responsible for approximately 82% of total lottery sales growth from FY 1991 through FY 1995 (almost all the rest came from Keno, introduced in 1994).

Figures 4-2 graphs the percentage changes in each county's Instant Ticket sales between FY 1991 and FY 1995 against average county distance from Foxwoods. The figure shows a similar trend: the closer a county is to Foxwoods, the lower its rate of growth. However, because there is much more variation among the different counties with respect to Instant sales growth (note the wide range along the y-axis), the relationship appears somewhat less significant than for lottery sales as a whole in Figure 4-1.

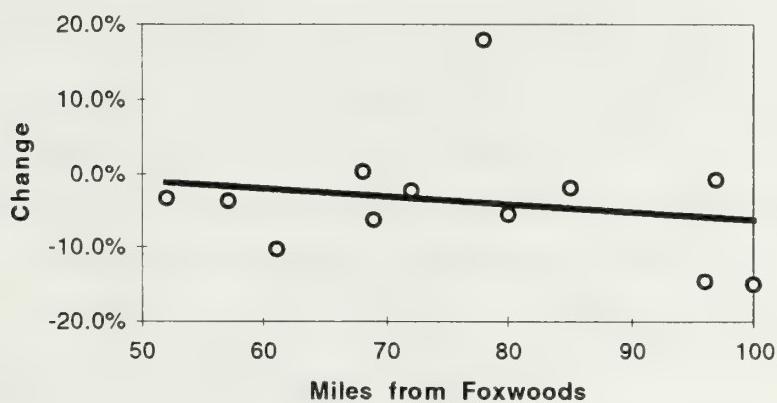
Figure 4-2
Line Graph of Change in Instant Ticket Sales: FY 91 v. FY 95



Numbers Game

Table 4-26 shows that total Massachusetts Numbers game sales were basically flat from FY 1991 to FY 1995. The rate of change varied between +17.7% (Suffolk) and -15.0% (Cape & the Islands). Figure 4-3 graphs the percentage changes in each county's Numbers game sales (as displayed in Table 4-26). There is a very slight downward trend with increasing distance from Foxwoods, which is not statistically significant.³⁵

Figure 4-3
Line Graph of Change in Numbers Game Sales: FY 91 v. FY 95



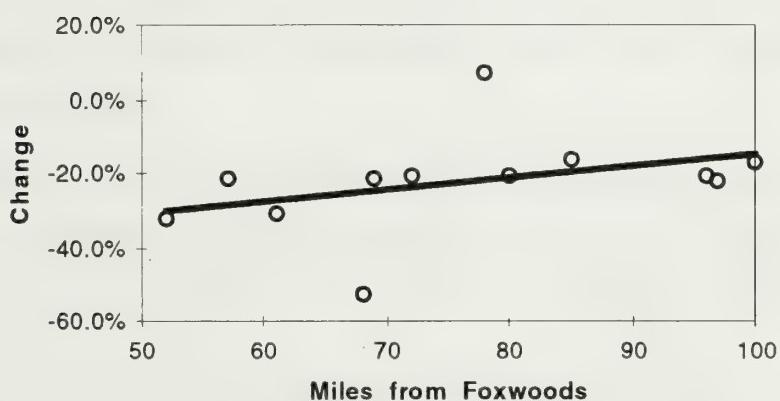
³⁵ Note that the scale of the y-axis (change) encompasses a much smaller range of variation than in the scales for Total sales and Instant sales. Thus, the slope, as drawn, appears steeper than it actually is in comparison to the trend lines in Figures 4-1 and 4-2.

Lotto Category

Table 4-26 shows that total Massachusetts lotto category sales declined 21.7% from FY 1991 to 1995. The rate of change varied from +6.6% (Suffolk) to -52.5% (Hampshire).

Figures 4-4 graphs the percentage changes in each county's lotto category sales (as displayed in Table 4-26). There is slight (and not very significant) upward trend: this again means that lotto sales experienced less severe declines in counties more distant from Foxwoods.³⁶

Figure 4-4
Line Graph of Change in Lotto-Type Sales: FY 91 v. FY 95



Summary

Overall, our analyses suggest a positive correlation between the change in lottery sales in each county between Fiscal 1991 and Fiscal 1995 and county distance from Foxwoods. This relationship is stronger for total lottery sales than it is for any of the individual types of games (Instant, Numbers, or lotto category). In our opinion, this is most likely due to the effects of aggregation smoothing out the random variations which have occurred among the different types of games, rather than to any inherent differences in impacts on the different games. The data are simply too "noisy" to quantify these effects with precision, but the pattern appears clear enough to provide additional support in a qualitative fashion to the estimates we develop below for the impacts of (adjacent) casinos on lottery sales as a whole.³⁷

³⁶ Again, note the smaller range of variation on the y-axis than in Figures 4-1 and 4-2.

³⁷ One of the reasons for the "noisiness" of the distance/impact relationship is that casino games, particularly when they are in short supply, have a powerful attraction even over long distances. In our analyses of Massachusetts residents' current spending patterns with regard to casinos, described in

4.6 Conclusions

A number of qualitative findings emerge from our examination of the relationship between casino handle and revenues and lottery sales and revenues.

General Findings

Total Lottery Sales. None of the ten lotteries operating in casino states experienced consistent decreases in total lottery sales after the start of casino gambling.

Instant Ticket Sales. All ten lotteries under analysis sell instant games. None has suffered consistent decreases in instant ticket sales since the start of casino gambling. Sales of instant games do, however, appear to decrease in some jurisdictions (three of nine eligible states) in the first full year of casino operations.

Numbers Games. Seven of the ten lotteries sell numbers games. Casinos may have contributed to minor erosion of numbers games sales in Illinois and Connecticut. Also, competition from casinos may have hindered the game from developing a strong consumer franchise in Minnesota and Wisconsin.

Lotto. All ten lotteries under analysis sell lotto games. Roughly half of the lotteries experienced sales declines after casinos opened. Casinos may have contributed to these declines.

Per Capita Sales. Fiscal 1995 per capita lottery sales (in U.S. lotteries), in total and by specific game, were *invariably* lower in states that have casino gambling than in states that did not have casino gambling. Per capita sales differences are summarized below.

Chapters 7 and 8 below, we have estimated that the “elasticity” of casino patronage with distance is about -0.6, which reflects relatively little fall-off with distance. As indicated in Exhibit 8-2-0, for example, we estimate that the residents of Bristol County (and Plymouth County, grouped with it for this analysis), the closest to Foxwoods, currently spend about \$93 per adult per year on casinos, and the residents of Essex County (the most distant) about \$72. The \$21 difference in casino spending between these two extremes of distance from Foxwoods amounts to only about 11 percent of the average adult’s spending on lottery games (which, for the State as a whole, was about \$193 in 1995).

Table 4-24
Per Capita Lottery Sales in State with and without Casinos

	Instant	Numbers	Lotto	Total
Casino States	\$45	\$42	\$43	\$124
U.S. Average	\$52	\$44	\$47	\$140
Lottery Only States	\$56	\$60	\$50	\$149

Specific Findings

New Jersey/New York/Pennsylvania. No clear pattern emerged for lottery sales during the first three years after Atlantic City casinos began operations. In FY 1995, all three lotteries had weak per capita instant game sales and strong numbers game sales. Total per capita sales and lotto per capita sales varied across states.

Illinois/Ohio. In the four years since casino gambling has been available in Illinois, total lottery sales have increased only 7.7%. In Ohio, a comparable state except that it hosts no casinos, total lottery sales have increased 39.5% in the same period.

Connecticut/Massachusetts. Connecticut and Massachusetts are both markets for Foxwoods, at differences. In the four years since casino gambling has been available in Connecticut, total lottery sales have increased 26.2%. In the same period, Massachusetts lottery sales have grown 76.0%.

Massachusetts Geographic Analysis. Our geographic analyses suggest a positive correlation between the change in lottery sales in each county between Fiscal 1991 and Fiscal 1995 and county distance from Foxwoods. Although the data are too “noisy” to quantify these effects precisely, the pattern appears clear enough to provide additional qualitative support to our estimates for the impacts of (adjacent) casinos on total lottery sales.

Chapter 5

*Device and Combined Impacts on
Traditional Lottery Sales*

5.1 Introduction

Evaluating the impact of electronic gaming devices (EGDs) on traditional lottery sales is as complex a task as evaluating casino impact. Once again, competitive environments differ markedly across jurisdictions in which both lotteries and EGDs operate. For example, devices are widely dispersed throughout the states of Montana and Oregon, but they are confined to race tracks in West Virginia and Delaware.

The timing of the introduction of EGDs can also affect their impact on traditional lottery sales. Devices were introduced in Montana prior to lottery start-up; in Oregon, they were not introduced until 1992, after the lottery had been operating for seven years.

This chapter presents available data and discusses sales trends for lotteries in American states and Canadian provinces where electronic gambling devices are currently operating.

Chapter Structure

This chapter is divided into five additional sections:

Gambling Sales and Revenues: Electronic Gaming Devices Compared with Traditional Lotteries³⁸

- EGDs are installed at commercial race tracks in West Virginia and Delaware. However, Delaware devices have only been operating since December 1995, so no data are available.
- Montana and Oregon have widely-distributed electronic gambling devices: that is, devices are installed in liquor-licensed establishments throughout the state. EGDs are also widely distributed in six Canadian provinces.

Traditional Lottery Sales Trends, by Game, in EGD Jurisdictions

- We next examine sales of individual lottery games (instant games, daily numbers games, and lotto games) in each of the EGD jurisdictions.

³⁸ Since this chapter contains a great deal of information, tables and figures for individual jurisdictions with gaming devices are located in Appendix A.

Gambling Sales and Revenues: Combination Casinos/EGDs Compared with Traditional Lotteries

- Louisiana and South Dakota have *both* devices and casinos. Additionally, Rhode Island residents have easy access to casino gambling in Connecticut; for all intents and purposes, Rhode Island is a combination effects state. Iowa also introduced EGDs at race tracks in April 1995, making it a combination effects state for less than one full year.
- Also, two Canadian provinces (Quebec and Manitoba) host both casinos and EGDs.

Traditional Lottery Sales Trends, by Game, in Casino/EGD Combination States

- We examine sales of individual lottery games (instant games, daily numbers games, and lotto games) in the combination jurisdictions.

Conclusions

- Lastly, we present our conclusions about the impacts of electronic gaming devices and combination effects on the sales of traditional lottery games.

5.2 Sales and Revenues: Electronic Gaming Devices Compared with Traditional Lotteries

Sales and Revenues: Devices at Commercial Race Tracks

West Virginia and Delaware have EGDs at race tracks. Since Delaware's EGDs have been operating fewer than three months, insufficient data are available for analysis.

West Virginia Sales and Revenues

In West Virginia, a total of 2,900 video gaming devices are located at three of the state's four race tracks. (The fourth race track failed to win approval by local option.) Operations began at a single racetrack in June 1990; only 125 devices were initially installed. The system was expanded to three race tracks in June 1995. The video gambling system is part of the state lottery.

Exhibit A-9 in Appendix A shows sales and revenues. Major trends are:

- Device sales (handle) grew steadily from FY 1991 through FY 1994, when devices were confined to one location. Sales more than doubled during that time.

- In Fiscal 1995, device handle jumped 405%, and easily overtook lottery handle, when devices were installed at two additional locations.
- Total traditional lottery sales have increased steadily since the introduction of devices.
- Device revenues were significantly smaller than lottery revenues through FY 1994. After expansion to two additional locations, device revenues increased to about one-third of lottery revenues.

Sales and Revenues: Lotteries and Widely Distributed Electronic Gaming Devices

Two states (Montana and Oregon) and six Canadian provinces (New Brunswick, Newfoundland, Nova Scotia, Prince Edward Island, Alberta, and Saskatchewan) have widely distributed electronic gaming devices installed in liquor-licensed establishments throughout the state.

Montana

Montana, the first jurisdiction to legalize devices, introduced video gambling in liquor-licensed establishments in 1985: 17,000 EGDs are currently installed. The devices are under the control of the Gambling Control Division, which is part of the Department of Justice. Importantly, there is no central control system monitoring the devices; accounting for each device is "controlled" by an internal cash register type mechanism that is easily dismantled. Thus, no accurate measures of wagering are available. Since reliable wagering data for devices are not available, our discussion is limited to lottery handle and revenues.

The Montana lottery started in FY 1988, after devices were operating.

Exhibit A-10 shows total Montana lottery sales from start-up in FY 1988.

- Lottery sales have had double-digit growth from FY 1990 through FY 1993. Growth slowed to 2.2% in FY 1994. FY 1995 sales decreased 13.1%.
- Trends in lottery revenues have mirrored trends in sales. Revenues were flat in FY 1994 then dropped 15.0% in FY 1995.

Oregon Sales and Revenues

Oregon video lottery operations began in April 1992. The base of about 6,700 terminals is installed in liquor-licensed establishments throughout the state. The lottery began operations in April 1985 and was mature when VLTs were introduced.

Exhibit A-11 shows traditional lottery and VLT sales and revenues. The trends are:

- Traditional lottery sales decreased for two of the three years (FY 89 and FY 90) preceding the introduction of electronic gaming devices.
- From the first full year of operations, device handle dwarfed lottery handle. For the last two years, device handle has been about ten times ten lottery handle.
- Lottery sales have increased every year since the introduction of devices.
- Device handle has also increased every year since start up -- at a higher rate than traditional lottery sales.
- Device revenues were greater than traditional lottery revenues from the outset. In FY 1995, devices generated twice the revenues traditional lottery games did.

New Brunswick

The Atlantic Lottery Corporation (ALC) controls all lottery operations, traditional games as well as video lottery games, in the four provinces of New Brunswick, Newfoundland, Nova Scotia, and Prince Edward Island. The four provincial lotteries share the same lottery game portfolio. Video lottery terminals (VLTs) in all the Atlantic provinces are widely-distributed in liquor-licensed aged-controlled establishments. Approximately 8,000 terminals are linked to a single central system.

VLTs were introduced at different times in the four provinces. New Brunswick was the first ALC lottery, as well as the first Canadian lottery, to install gaming devices. Operations began on December 1, 1990.

The Atlantic Lottery Corporation began in 1975, and was mature when electronic gaming devices were introduced.

Exhibit A-12b in Appendix A shows New Brunswick lottery sales and revenues and device revenues since fiscal year 1990. Major trends are:

- Total traditional lottery sales and revenues had strong sales growth in 1992 and 1993, the first two full years of VLT operations. Sales were static from 1993 to 1994, then increased 9% in 1995.
- Device revenues (win) overtook traditional lottery revenues in 1992, the first full year of EGD operations.
- Device revenues were nearly twice lottery revenues in FY 1995.

Newfoundland

All Newfoundland lottery operations (traditional games and VLTs) are under the control of the Atlantic Lottery Corporation. Newfoundland shares a common product portfolio of traditional lottery games with New Brunswick, Nova Scotia, and Prince Edward Island.

Newfoundland introduced electronic gaming devices on December 27, 1990, just four weeks after New Brunswick. As stated, the Atlantic Lottery Corporation, which started operations in 1975, was mature when VLTs were introduced.

Exhibit A-12b shows sales and revenues. Major trends are:

- Device revenues (win) have grown dramatically since start-up in 1991. Fiscal year 1995, the third full year of operations, saw a 33% growth in revenues compared with the previous year.
- Total traditional lottery sales and revenues have also grown steadily since 1991, but these rates of growth are outpaced by EGDs.
- Lottery revenues (win) have been larger than device revenues every year, but the gap is closing steadily. In FY 1992, devices generated 23% of traditional lottery revenues; in 1995, devices produced 71% of traditional lottery revenues.

Nova Scotia³⁹

The Atlantic Lottery Corporation controls Nova Scotia's traditional and video lottery operations. Nova Scotia has the same lottery portfolio as the other Atlantic provinces.

Nova Scotia introduced EGDs on May 7, 1991, only five months after New Brunswick. The widely-distributed devices are confined to liquor-licensed establishments.

Exhibit A-12b in Appendix A shows sales and revenues. Major trends are:

- Lottery sales and revenues have grown steadily every year since the introduction of EGDs.
- Device revenues, which showed the expected explosive growth in the first full year of operations, decreased 14% in 1994. This decrease is due to the fact that prior to FY 1994, some EGDs had been installed in establishments that did not hold liquor licenses. The required removal of these devices resulted in the 14% decline in revenues shown in Exhibit A-12b.

³⁹ Casino gambling was introduced in Nova Scotia in 1995. The first casino opened in Halifax on June 1, and a second casino opened in Sydney on August 1. Nova Scotia is included in this analysis of EGD jurisdictions, since the casinos were not operating until FY 1996; no sales or revenue data are yet available.

- Device revenues rebounded 40% in 1995.
- FY 1995 device revenues were about 1.2 times FY 1995 lottery revenues.

Prince Edward Island

Prince Edward Island was the last of the four Atlantic provinces to introduce VLTs, but it was still a North American innovator. Video operations began on August 23, 1991, less than ten months after New Brunswick first installed EGDs. PEI offers the same product portfolio as the three other Atlantic provinces.

Exhibit A-12b in Appendix A shows sales and revenues. Major trends are:

- Lottery sales and revenues have increased every year since EGD start-up. The rate of growth in FY 1994 (23%) was especially strong.
- Device revenues have had lower rates of growth than traditional lottery revenues.
- Device revenues surpassed lottery revenues in the first full year of VLT operations. FY 1995 device revenues were about 150% of lottery revenues.

Saskatchewan⁴⁰

Saskatchewan is a member of the Western Canada Lottery Corporation (WCLC), which was incorporated in 1974. The governments of Saskatchewan, Alberta, and Manitoba are members of the corporation.⁴¹

Saskatchewan, the first WCLC province to introduce video gambling, began a province-wide roll-out of EGDs in July 1993. Nearly 4,000 devices are installed in age-controlled environments. The system is operated under contract by the WCLC.

Exhibit A-13b in Appendix A shows device sales and revenues since start-up in FY 1994 and lottery data since 1993.⁴² Major trends are:

- Lottery sales have declined 1% to 2% over the last three years.
- In line with expectations, device revenue increased 293% in the first full year of operations.

⁴⁰ The first permanent casino opened in Regina on January 26, 1996. Saskatchewan is included in this analysis of EGD jurisdictions, since the casino was not operating until FY 1996; no sales or revenue data are available yet.

⁴¹ The Yukon and the Northwest Territories are associated members and sell traditional lottery tickets.

Alberta

Alberta is also a member of the Western Canada Lottery Corporation (WCLC), which was incorporated in 1974. However, Alberta officials opted to operate EGDs through the Alberta Lotteries member arm of the WCLC rather than to relegate control to the WCLC.

Province-wide video lottery operations began in August 1992.

Exhibit A-13b in Appendix A shows available device sales and revenues since start-up in FY 1994 and lottery data since 1993.⁴³ Major findings are:

- Lottery sales and revenues exhibited solid growth from FY 1990 through FY 1994, but then decreased 5% in FY 1995, the first full year of device operations.
- Device revenues surpassed traditional lottery revenues in FY 1994, the first full year of operations. In FY 1995, device revenues were nearly three time lottery revenues.

5.3 The Impact of EGDs on Traditional Lottery Sales

We now examine lottery sales, by game, in the nine jurisdictions with electronic gaming devices. Data are presented for total sales, instant games, numbers games, and lotto games.

Total Sales

Table 5-1 summarizes trends of total lottery sales for the nine jurisdictions.

The second row of the table lists the month and year electronic gaming device operations began. The third row of the table lists the last full fiscal year in which each lottery operated before EGD operations commenced. For example, the West Virginia Lottery had no device competition through FY 1990. Sales for FY 1990 (Year 0) increased 13%. In FY 1991, after the introduction of EDGs, sales increased 17%. In Year 2, the second Fiscal Year in which devices were operating, total West Virginia lottery sales increased 28%.

⁴² Disaggregated data are generally unavailable prior to FY 1993.

⁴³ The Western Canada Lottery Corporation aggregates traditional lottery sales data for all three member provinces. Disaggregated data are generally unavailable prior to FY 1993.

This presentation of data allows us to examine total lottery sales across all jurisdictions for one, two, three, four, or five years after EGD gambling began.

Table 5-1
Trends in Total Lottery Sales after EGDs

	WV	MT	OR	NB	NFL	NS	PEI	ALB	SAS
Device Start	Jun-90	Jun-85	Apr-92	Dec-90	Dec-90	May-91	Aug-91	Aug-92	Jul-93
Lottery Base Year	1990	N/A	1991	1990	1990	1991	1991	1992	1993
Change	Year 0	13%	-47%	-9%	n/a	n/a	n/a	6%	n/a
	Year 1	17%	85%	67%	2%	42%	6%	1%	10%
	Year 2	14%	11%	5%	17%	31%	13%	14%	5%
	Year 3	28%	17%	12%	13%	19%	6%	10%	-5%
	Year 4	19%	32%	18%	0%	7%	9%	23%	
	Year 5	12%	2%		9%	7%	16%	9%	
	Year 6			-13%					

The table shows:

- Only one jurisdiction (SAS) had a decrease in total traditional lottery sales during Year 2.
- The only sales decreases over all years and in all jurisdictions were in Montana (Year 6), Alberta (Year 3), and Saskatchewan (Year 2).

Table 5-2 presents FY 1995 per capita lottery sales for American states.⁴⁴

All three EGD states had lower than average per capita lottery sales. Table 5-2 also shows that average FY 1995 per capita sales for all lotteries were \$140. States with EGDs had per capita sales of \$92 compared with lottery-only state sales of \$149. Per capita sales were 62% higher in states without devices.

⁴⁴ Canadian per capita sales are not presented due to the currency difference and because there are major differences in the product portfolios of Canadian and American lotteries. Canadian per capita sales are discussed separately at the end of Section 5.5.

Table 5-2
1995 Per Capita Total Lottery Sales

	Per Capita Sales	National Rank
Montana	\$41	35/35
West Virginia	\$85	23/35
Oregon	\$110	19/35
U.S. Average	\$140	
Average EGD States	\$92	
Average Lottery Only States	\$149	

Instant Games

Table 5-3 shows trends in annual instant games sales for the nine EGD jurisdictions.

Table 5-3
Trends in Instant Game Sales after EGDs

	WV	MT	OR	NB	NFL	NS	PEI	ALB	SAS
Device Start	Jun-90	Jun-85	Apr-92	Dec-90	Dec-90	May-91	Aug-91	Aug-92	Jul-93
Lottery Base Year	1990	N/A	1991	1990	1990	1991	1991	1992	1993
Change	Year 0	-11%	-47%	-11%	n/a	n/a	n/a	-4%	n/a
	Year 1	47%	0%	3%	-14%	-39%	-12%	-16%	31%
	Year 2	26%	-29%	12%	41%	32%	29%	17%	15%
	Year 3	6%	13%	50%	28%	29%	14%	8%	-11%
	Year 4	12%	-2%	63%	-11%	0%	2%	-3%	
	Year 5	17%	-14%		13%	13%	17%	11%	
	Year 6				-8%				

- Montana has had repeated annual decreases in instant ticket sales.
- Instant ticket sales have had strong growth in both West Virginia and Oregon since the introduction of EGDs.
- During Year 2, Montana lost sales after the introduction of EGDs, but the lottery sold only instant tickets until after the devices were on the market.
- During Year 2, Saskatchewan was the only other lottery with instant sales decreases.
- During Year 3, seven of the eight eligible increased sales.

In summary, only Montana and Saskatchewan had declines in instant game sales in the first full year after EGDs were introduced (Year 2). Montana's declines *may* be due to prior market saturation by EGDs. Devices may have inhibited the growth of instant games in a young lottery.

Table 5-4 shows FY 1995 per capita instant ticket sales for the U.S. jurisdictions.

Table 5-4
1995 Per Capita Instant Game Sales

	Per Capita Sales	National Rank
Montana	\$9	35/35
West Virginia	\$34	22/35
Oregon	\$39	16/35
U.S. Average	\$52	
Average EGD States	\$33	
Average Lottery Only States	\$56	

All three EGD states had lower than average instant sales. Montana ranked last of all 35 U.S. lotteries. Table 5-4 also shows that nationwide average FY 1995 per capita instant sales were \$52. EGD state per capita sales were \$33 compared with lottery-only state sales of \$56. Per capita sales were 70% higher in states without devices than they were in the EGD states.

Numbers Games

Only four of the EGD jurisdictions sell numbers games. Table 5-5 shows sales trends.

Table 5-5
Trends in Numbers Games Sales after EGDs

		WV	OR	ALB	SAS
Device Start		Jun-90	Apr-92	Aug-92	Jul-93
Lottery Base Year		1990	1991	1992	1993
Change	Year 0	7%	-4%	n/a	n/a
	Year 1	1%	-21%	n/a	13%
	Year 2	7%	-21%	26%	-7%
	Year 3	-4%	-7%	13%	
	Year 4	-3%	-5%		
	Year 5	9%			

Two jurisdictions (OR, SAS) had sales declines in Year 2. Two jurisdictions (OR, WV) have had repeated declines. One jurisdiction has had good increases. Results are inconclusive.⁴⁵

Table 5-6 shows FY 95 per capita numbers games sales.

⁴⁵ None of these jurisdictions relies on the numbers game as a major contributor to portfolio sales. Results may not apply to urban Northeast states, which have loyal consumer franchises for this game.

Table 5-6
FY 1995 Per Capita Numbers Games Sales

	Per Capita Sales	National Rank
West Virginia	\$9	17/28
Oregon	\$1	28/28
U.S. Average	\$34	
Average EGD States	\$4	
Average Lottery Only States	\$35	

Average per capita numbers sales were significantly lower in West Virginia and Oregon than they were in lottery-only states. Per capita sales were much higher in lottery-only states.

Lotto Games

All EGD jurisdictions sell lotto games. Table 5-7 shows annual sales trends.

Lotto sales for all lotteries have increased rather steadily since EGDs were introduced. The only decreases have been in Montana (13% in Year 6), Oregon (9% in Year 2), Alberta (3% in Year 4), and Saskatchewan (7% in Year 3).

Table 5-8 displays FY 1995 per capita lotto sales for American states.

The jurisdictions with devices had low per capita lotto sales. Average per capita lotto sales in lottery-only states were 67% higher than per capita sales in states with EGDs.

Table 5-7
Trends in Lotto Sales after EGDs

	WV	MT	OR	NB	NFL	NS	PEI	ALB	SAS
Device Start	Jun-90	Sep-92	Oct-89	Apr-95	Dec-90	Dec-90	May-91	Aug-91	Aug-92
Lottery Base Year		1990	N/A	1991	1990	1990	1991	1991	1992
Change									
Year 0	53%	*	-9%	n/a	n/a	n/a	n/a	2%	n/a
Year 1	-6%	**	15%	5%	23%	11%	8%	6%	13%
Year 2	2%	59%	-9%	9%	37%	9%	16%	3%	-7%
Year 3	33%	19%	7%	4%	7%	3%	10%	-3%	
Year 4	35%	48%	3%	0%	2%	4%	52%		
Year 5	16%	7%		6%	5%	16%	3%		
Year 6									
				-14%					

* No on-line games

** On-line start-up year

Table 5-8
FY 1995 Per Capita Lotto Sales

	Per Capita Sales	National Rank
Montana	\$32	25/35
West Virginia	\$33	23/35
Oregon	\$28	28/35
U.S. Average	\$47	
Average EGD States	\$30	
Average Lottery Only States	\$50	

5.4 Sales and Revenues: Combination States

Louisiana and South Dakota have *both* devices and casinos. Also, since Rhode Island is very close to Foxwoods in Connecticut, it is for all intents and purposes a combination effects state. Iowa installed slot machines at race tracks in April 1995. FY 1995 lottery sales would have been affected by only three months of slot machine operations, but we do include Iowa information for reference.

Manitoba and Quebec also host casinos *and* EGDs. Nova Scotia introduced casino gambling in FY 1996 (not relevant for this analysis); no data are yet available.

South Dakota Sales and Revenues

In October 1989, South Dakota introduced “video lottery terminals” (“VLTs”) in liquor-licensed establishments throughout the state. The installed base is approximately 8,000 units. The system operates as part of the South Dakota Lottery, which began in September 1987. Casinos opened in the town of Deadwood in 1989.

The young lottery was still selling only instant tickets when both electronic gaming devices and casinos started.

Exhibit A-14 shows South Dakota sales and revenues for traditional lottery games, VLTs, and casinos from the start-up year for each gambling activity. The trends are:

- Sales of traditional lottery games declined during the first three years of operations, when only instant tickets were sold. Sales increased in FY 1992, after the introduction of on-line lotto.
- Device handle exceeded lottery sales in the first fiscal year (9 months) of operations.
- Casino handle immediately exceeded traditional lottery handle.
- Device handle has been more than fifty times lottery handle for the last three years. Device handle has been about four times casino handle for the last two years.
- Lottery sales have increased every year since FY 1992, after on-line games were launched.
- In the first fiscal year of operations, device revenues overtook lottery revenues.
- Devices generate roughly 75% of state revenues, casinos roughly 19%, and lottery about 7%.

Louisiana Sales and Revenues

The Louisiana Lottery started in September 1991. Video poker operations, controlled by the State Police, began in June 1992, before the lottery had initiated its on-line system (January 1992). Video poker machines are located in the state's liquor-licensed establishments, truck stops, and race tracks, and OTB facilities.

Casino gambling began in December 1993, when the first riverboat opened on Lake Charles. Seventeen additional casinos opened from December 1993 through July 1995, although three of these (including Harrah's in New Orleans) subsequently closed. Fifteen casinos (including three Indian operations) are currently operating.

Exhibit A-15 shows lottery, device, and casino data. The trends are:

- The lottery has fared poorly. As expected, sales increased in the first full year of operations, due to the introduction of on-line games. Sales decreased during the next two years.
- Device handle grew dramatically at the outset, but dropped 8% in 1995.
- Casino handle dwarfs both lottery and device handles. Casino handle is four to five times as large as device handle.
- In 1995, casino revenues were about three times device revenues and nine times lottery revenues. Device revenues were almost three times lottery revenues.

Rhode Island Sales and Revenues

The Rhode Island Lottery operates video lottery terminals at two race tracks. Operations began in September 1992. About 1,300 devices are currently installed.

Exhibit A-16 shows sales and revenues for Rhode Island traditional lottery games from FY 1984, for devices from start up in FY 1993, and for Foxwoods since start up in 1992 (table games) and 1993 (devices).

The tables show:

- Traditional lottery sales were relatively flat from FY 1988 through FY 1992, then jumped 62.9% in FY 1993. The increase was due to almost entirely to the introduction of rapid-draw keno.
- Device handle, which grew strongly from the outset, was fifteen times lottery sales in FY 1995.
- Casino handle has been six to eight times device handle. Casino handle overpowers lottery sales.
- Both lottery and device revenues have grown in proportion to sales. In FY 1995, device revenues were about two and a half times revenues of traditional lottery games.
- Casino revenues (paid to Connecticut) were nearly five times device revenues (paid to Rhode Island). Rhode Island lottery revenues were a mere fraction of casino revenues.

Iowa Sales and Revenues

Slot machines were installed at Iowa race tracks in April 1995. Exhibit A-2 (in Appendix A) shows:

- Device handle was over \$3 billion in calendar 1995. This compares with Iowa casino handle of \$4 billion in calendar 1995 and traditional lottery handle of \$208 million in FY 1995.
- In their first nine months of operations, device revenues were \$217 million, compared with 1995 casino revenues of \$233 million and FY 1995 lottery revenues of \$95 million.

Manitoba

The Canadian province of Manitoba has both casino gambling and electronic gaming devices. Casinos are confined to the city of Winnipeg. The first casino, which opened in

December 1989 (FY 1990), has table games and slot machines. Two additional casinos, which offer slots, video machines, and bingo, opened in June 1993.

Manitoba video lottery operations commenced in November 1991. Approximately 6,000 electronic gaming devices are installed in age controlled hotels and lounges.

Manitoba is a member of the Western Canada Lottery Corporation (WCLC). But video lottery operations are controlled by the Manitoba Lotteries Foundation not by the WCLC.

Exhibit A-13b in Appendix A shows the limited available lottery, device, and casino data. The major trends are:

- Manitoba Lottery sales declined 4% in FY 1994 and 1% in FY 1995.
- Device revenues have grown rapidly since system introduction in FY 1993. In 1995, device revenues exceeded lottery handle.
- Casino revenues have had strong growth every year since start-up. The 186% boost in FY 1994 is due to the two new casino openings. increased over the last two years.

Quebec

The Canadian province of Quebec hosts both casino gambling and electronic gaming devices. Quebec's first casino opened in Montreal in October 1993 (FY 1994). Two more casinos have opened since, one in Charlevoix (near Quebec City) and the other in Hull.

Quebec's VLT system began operation in July 1994. Approximately 7,500 electronic gaming devices are installed in age-controlled environments throughout the province.

Loto-Quebec, the first Canadian lottery, began in March 1970. Traditional lottery games were very mature when both casinos and EGD were introduced.

Exhibit A-17 shows lottery, device, and casino data. The trends are:

- Loto Quebec traditional lottery game sales have increased every year since 1990. In FY 1995, the first full year in which both casinos and EGDs were operating, lottery sales grew 10%, and lottery revenues grew 13%.^B
- Device handle and revenues increased 34% from FY 1994 to FY 1995. Device revenues in 1995 were less than 10% of lottery revenues.
- Casino handle surpassed lottery handle in FY 1994. Casino revenues were less than half of lottery revenues in FY 1995.

5.5 Combination Effects: Impacts of Casinos and EGDs on Traditional Lottery Sales

Total Sales

Table 5-9 summarizes trends of total lottery sales for the six combination jurisdictions. Our standard presentation format is used.

Table 5-9
Trends in Total Lottery Sales after Casinos/EGDs

	SD	RI	LA	IA	MAN	QBC
EGD/Casino Start	Oct-89	Sep-92	Jun-92	Apr-95	Dec-89	Oct-93
Lottery Base Year	1989	1992	1992*	1994	1990	1994
Change	Year 0	-19%	-2%	**	1%	n/a
	Year 1	-10%	63%	30%	0%	n/a
	Year 2	-4%	13%	-29%		2%
	Year 3	26%	19%	-11%		6%
	Year 4	31%				-4%
	Year 5	10%				-1%
	Year 6	6%				

* Lottery start up year

- In Year 2 after start up, sales decreased in both South Dakota and Louisiana, but increased in Rhode Island and Manitoba.
- Sales rebounded in South Dakota with the introduction of on-line games. Sales continued to decrease in Louisiana. Sales also continued to increase in Manitoba.
- Quebec lottery sales increased during the first (partial) year of EGD operation.
- Rhode Island lottery sales have increased every year since the introduction of casino gambling.

Table 5-10 shows total per capita lottery sales in combination American states.

Table 5-10
1995 Per Capita Total Lottery Sales

	Per Capita Sales	National Rank
South Dakota	\$50	33/35
Rhode Island	\$143	13/35
Louisiana	\$72	30/35
Iowa	\$74	27/35
U.S. Average	\$140	
Average Combination States	\$81	
Average Lottery Only States	\$149	

All combination states had lower than average per capita lottery sales. Also, average FY 1995 per capita sales for all lotteries were \$140. Combination states had per capita sales of \$81 compared with lottery-only state sales of \$149. Per capita sales were 84% higher in states without casino/EGD competition.

Instant Games

Table 5-11 shows trends in annual instant games sales for the combination states.

Instant game sales have dropped in South Dakota and Louisiana. Rhode Island had a small sales increase in Year 2, then had 85% growth in Year 3. Quebec instant sales declined during the first (partial) year of competitive sales.

Table 5-11
Trends in Instant Game Sales after Casinos/EGDs

	SD	RI	LA	IA	MAN	QBC
Device Start	Oct-89	Sep-92	Jun-92	Apr-95	Dec-89	Oct-93
Lottery Base Year	1989	1992	none	1994	1990	1994
Change	Year 0	-19%	-7%	**	3%	n/a
	Year 1	-10%	-2%	-15%	5%	n/a
	Year 2	-29%	3%	-22%		n/a
	Year 3	-16%	85%	-35%		n/a
	Year 4	-11%			4%	
	Year 5	16%			-3%	
	Year 6	38%				

** Game start up year

Table 5-12 shows FY 1995 per capita instant game sales for combination states.

Table 5-12
1995 Per Capita Instant Game Sales

	Per Capita Sales	National Rank
South Dakota	\$23	30/35
Rhode Island	\$21	32/35
Louisiana	\$30	26/35
Iowa	\$37	18/35
U.S. Average	\$52	
Average Combination States	\$28	
Average Lottery Only States	\$56	

All combination states had lower than average per capita lottery sales. Also, average FY 1995 per capita sales for all lotteries were \$52. Combination states had per capita sales of \$28 compared with lottery-only state sales of \$56. Per capita sales were 100% higher in states without casino/EGD competition.

Numbers Games

Table 5-13 provides sales trends for combination jurisdictions that sell numbers games.

Numbers game sales have decreased in Rhode Island since Year 2. Sales grew in Louisiana, where a numbers game was introduced in FY 1993. Manitoba introduced a numbers game in Year 3; sales growth is standard for a new lottery game.

Table 5-13
Trends in Numbers Games Sales after EGDs

	RI	LA	MAN	QBC
Device Start	Sep-92	Sep-92	Dec-89	Oct-93
Lottery Base Year	1992	1992	1990	1994
Change	Year 0	1%	*	* 12%
	Year 1	-2%	**	* 4%
	Year 2	-3%	19.1%	*
	Year 3	-3%	5.4%	**
	Year 4			120%
	Year 5			9%

* No numbers game

** Game start up year

Table 5-14 shows U.S. per capita numbers game sales.

Table 5-14
FY 1995 Per Capita Numbers Games Sales

	Per Capita Sales	National Rank
Louisiana	\$9	18/28
Rhode Island	\$31	15/28
U.S. Average	\$34	
Average Combination States	\$11	
Average Lottery Only States	\$35	

The two states had lower than average per capita lottery sales. A surprising finding is that Rhode Island ranked in the bottom half of all relevant lottery jurisdiction in per capita numbers game sales. Numbers sales in Northeast urban states are typically strong.

Also, average FY 1995 per capita sales for all lotteries were \$34. Combination states had per capita sales of \$11 compared with lottery-only state sales of \$35. Per capita sales were 218% higher in states without casino/EGD competition.

Lotto Sales

Table 5-15 shows lotto sales trends for the combination jurisdictions.

Table 5-15
Trends in Lotto Sales after EGDs

	SD	RI	LA	IA	MAN	QBC
Device Start	Jun-90	Apr-92	Jun-85	Sep-92	Dec-89	Oct-93
Lottery Base Year		1989	1992	1992	1994	1990
Change	Year 0	*	-3%	**	-2%	n/a
	Year 1	*	55%	160%	-1%	n/a
	Year 2	**	57%	-44%		n/a
	Year 3	136%	39%	24%		n/a
	Year 4	78%				-8%
	Year 5	7%				2%
	Year 6	-12%				

* No lotto game

** Lotto start-up year

Louisiana lotto sales decreased relatively sharply in Year 2, after lotto was introduced in FY 92. Neither South Dakota nor Rhode Island had lotto sales decreases.

Table 5-16 shows FY 1995 per capita lotto sales.

**Table 5-16
FY 1995 Per Capita Lotto Sales**

	Per Capita Sales	National Rank
South Dakota	\$27	31/35
Rhode Island	\$66	4/35
Louisiana	\$33	22/35
Iowa	\$25	33/35
U.S. Average	\$47	
Average Combination States	\$38	
Average Lottery Only States	\$50	

Rhode Island's per capita sales were very strong, ranking fourth of the 35 U.S. lottery jurisdictions. Louisiana sales were in the middle third. South Dakota and Iowa ranked among the bottom five states. Average FY 1995 per capita lotto sales for all lotteries were \$47. Combination states had per capita sales of \$38 compared with lottery-only state sales of \$50. Per capita sales were 31% higher in states without casino/EGD competition.

Per Capita Sales in Canadian Jurisdictions

Our previous discussions of the EGD and combination impacts on traditional lottery sales did not address Canadian per capita sales due to currency differences and to differences in the types of games sold by American versus Canadian lotteries. In fact, there are major differences across product portfolios: all the Canadian lotteries have sports pools, spiel games (a type of passive game attached to a lotto game), and passive draw games. In contrast, Oregon is the only American lottery that sells a sports pool, and passive games are not popular in the U.S.

Table 5-17 presents per capita sales for Canadian provinces group by their competitive environment.

Table 5-17
Canada: FY 1995 Per Capita Sales

	Instant	Numbers	Lotto	Total
Lottery Only Province	\$50	\$2	\$99	\$218
Combination Provinces	\$43	\$3	\$97	\$202
Canadian Average	\$44	\$3	\$89	\$183
Casino Only Provinces	\$47	\$4	\$92	\$180
EGD Provinces	\$34	\$1	\$66	\$145

The table shows:

- The lottery-only province (British Columbia) ranked first in total per capita sales and per capita sales of all major lottery product categories.
- Per capita sales in the lottery-only province exceeded the nationwide average, by game and in total.
- Per capita sales in the casino only province (Ontario) were always below the national average, for total sales and sales by type of game.
- Per capita sales in the six EGD provinces ranked lowest of all types of competitive environments for total lottery sales and sales by game.

At first glance, the combination provinces ranked second in total per capita sales in FY 1995. However, the only combination provinces are Manitoba (population 1.1 million) and Quebec (7.2 million). Quebec trends overwhelm Manitoba trends. Also, Quebec EGDs were introduced in FY 1995 and casino operations began in FY 1994. So FY 1995 per capita lottery sales do not reflect a full year's EGD operations. These data may not be reflective of the equilibrium situation.

5.6 Conclusions

EGD States

After the introduction of electronic gambling devices:

- During the first full year after EGD installation, total lottery sales increased in eight of the nine jurisdictions.
- During the first full year after installation, Instant ticket sales decreased in two jurisdictions and increased in seven jurisdictions.

- Numbers game sales decreased in two of four jurisdictions selling this product.
- Lotto sales grew in seven of nine jurisdictions.

Combination EGD/Casino States

After casinos and electronic gambling devices were introduced:

- During the first full years after the start of operations, total lottery sales increased in two jurisdictions and dropped in two jurisdictions.
- Instant game sales initially dropped in two jurisdictions but increased in the third eligible jurisdiction.
- Insufficient data exist to identify results for either numbers games or lotto.

Per Capita Sales

Six major trends were identified in FY 1995 per capita lottery sales in American states.

- Lottery-only states *always* ranked first in total per capita sales and per capita sales of all major lottery product categories.
- Per capita sales in lottery-only states *always* exceeded the nationwide average, by game and in total.
- Casino-only states always ranked second, behind lottery-only states, in total per capita sales and per capita sales of all major lottery product categories.
- Per capita sales in casino-only states were *always* lower than the nationwide average, by game and in total.
- EGD states ranked third in instant, lotto, and total per capita sales. They ranked last in numbers game sales.
- Combination states ranked fourth in instant, lotto, and total per capita sales, and third in numbers games sales. (The small sample size may have affected results).

Table 5-18
Summary: Per Capita Lottery Sales

	Instant	Numbers	Lotto	Total
Lottery Only States	\$56	\$60	\$50	\$149
U.S. Average	\$52	\$44	\$47	\$140
Casino Only States	\$45	\$42	\$43	\$124
EGD States	\$33	\$4	\$30	\$92
Combination States	\$28	\$11	\$38	\$81

Overall, trends in Canadian per capita sales follow the same patterns as the American per capita sales, with the exception of combination provinces (where the small sample size may have affected results).

In summary, alternative gambling activities appear to impact traditional lottery game sales. But the impact is subtle. These activities do not cause lottery sales to decrease; only a minority of traditional lottery games in a minority of states had decreasing sales trends. Rather, casinos and devices appear to suppress or inhibit the growth of traditional lottery sales. The combination of casinos and devices exerts the strongest suppression.. Devices alone exert the second strongest impact, and casinos alone the third strongest impact.

Chapter 6

Small Signal (Trend) Analysis

6.1 Introduction

Chapters 4 and 5 analyzed sales trends for lotteries in states where casinos and electronic gambling devices (EGDs) are currently operating. As discussed, evaluating the impact of casinos and EGDs on traditional lottery sales is a complex task due to state-to-state differences across numerous variables and to the small number of states that have lotteries *and* alternative gambling options.

A major finding in both chapters was that per capita lottery sales are significantly lower in lottery jurisdictions that have casino and/or device gambling than they are in jurisdictions that have lotteries only. However, due to small sample sizes and regional differences, it was not possible to estimate definitively the quantitative impact of casino/device gambling on traditional lottery sales, except to state that total per capita lottery sales in lottery-only states were 20% higher than they were in casino states, 62% higher than they were in EGD states, and 84% higher than they were in combined casino/EGD states.

In order to generate a firmer estimate of impact, we developed an analytical methodology that aggregated annual sales data for (a) lotteries, (b) casinos, and (c) electronic gambling devices. While casino and EGD data are often limited to only two or three or four years of operations, state lottery data are available for 26 years.

Even small trends can be identified and quantified if a sufficient number of samples is available for analysis. A method for identifying small trends was developed and applied to casino and lottery data sales trends.

Results

Our analysis determined that the growth rate for traditional lottery sales in the U.S. is significantly lower in states with casinos than it is in states without casinos. The compound annual growth rates of such lotteries are *consistently* at least 2% lower and may be as much as 9% lower than the compound annual growth rate of lotteries that do not face intrastate casino competition.

For U.S. jurisdictions, the average result was a 4-5% reduction in lottery sales growth every year for those lotteries with intrastate casinos vs. those lotteries without intrastate casinos. We then added the data from Canadian provincial lotteries to the U.S. state lotteries data. The

combined U.S. and Canadian lottery results again showed a consistent and significant reduction in compound annual growth rates at a level approximately one-half percent lower than the U.S. alone (about a net 4% reduction in annual sales growth rates). The compounding effects of this annual reduction in growth rate can quickly add up to strong long-term suppression of lottery sales growth.

When we applied this same methodology to analyzing the impact of electronic gambling devices on lottery sales growth, the use of U.S. data alone produced samples too small for effective analysis. The addition of Canadian data produced samples that were large enough to identify a negative effect due to EGDs, but were too small to accurately quantify this effect. The available data indicate a small, single-digit percentage-point negative effect on sales growth rates, on the order of 2% or 3%. While this is the best number than can be produced with the available data, we caution that the actual effect could be several points higher or lower. As we acquire more experience with EGDs over the next few years, we will also be generating the data needed for more accurate quantitative analysis. As in the case of casinos, the compounding effects of an EGD-induced multi-percentage-point reduction in annual lottery growth rate can generate strong long-term suppression of growth.

Sample sizes were too small to apply this methodology to analyzing the combined impacts of electronic gambling devices and casinos on lottery sales.

Chapter Structure

This chapter is divided into two sections:

- **Methodology.** We describe the methodology used to estimate the impact of alternative forms of gambling on traditional lottery sales.
- **Analysis.** We present our analysis of and findings regarding the effect of casinos on the annual growth rate of lottery sales.

6.2 Methodology

Lotteries differ on numerous dimensions including state population, structure of the product portfolio, competition from gambling activities in contiguous states, maturity of the lottery and its competition, and legislative restrictions on the lottery and its competition.

In assessing the impact of casinos (or other single factors including EGDs) on lottery sales, one can seek to identify lotteries that are comparable in terms of their age, product portfolio, etc., but that differ in terms of presence or absence of a casino. Indeed, Chapter 4 compared the sales trends of the Illinois (with casinos) and Ohio (without casinos) lotteries. Unfortunately, the number of such directly comparable lotteries is small.

Small Signal Analysis

An innovative way to analyze this issue more extensively is to borrow from the technology of signal analysis to look for small “signals” that have a magnitude that is less than the background “noise” in the environment. Basically, the approach is to collect a large number of samples and use averaging techniques to “see” the small signal. Those samples containing a “signal” will have an average slightly different than the average of those samples without the “signal.” The difference between the averages of the two samples is the “signal.” With a sufficient number of samples, the signal can be detected, and its magnitude can be estimated. As the number of data points increases, so does the accuracy and precision of the estimate of the signal.

Application to Lottery Analysis

We applied small signal analysis to the lottery industry by using 26 years of annual sales data (the number of years that lotteries have been operating under a wide variety of competitive conditions) reported by all 37 U.S. and all 10 Canadian lotteries. A total of 626 lottery-years was reported (501 U.S. and 125 Canadian).

For the analysis of casino effects on lotteries, our goal was to extract two “relatively clean” samples from the 626 “data points.” (A data point is simply a specific lottery’s annual sales in a specific year. Massachusetts sales of \$2.8 billion in 1995 is one data point.)

- The first sample consisted of the data points of states/provinces *with* casino gambling (annual lottery sales for every year since a lottery’s start up), and
- The second sample consisted of the data points (lottery sales by year) of states/provinces *without* casino operations. (Note that over the years, a lottery can contribute data points to both sets. For example Illinois contributed 15 data points for years when it had no casino operations and four data points for casino years.)
- The sets were kept “relatively clean” by excluding states/provinces with electronic gaming devices.
- The only consistent difference between the sets was the presence or absence of casino gambling.

With enough data points in each set, the effects of factors other than the presence or absence of casinos will tend to even out over both data sets. For example, each set will contain as many lotteries with strong product portfolios as with weak product portfolios. The same will be true for other non-casino factors. Thus the difference in the average growth rates of the two sets should be an indication of the difference in growth rates that are linked to the presence or absence of casinos.⁴⁶

For the analysis of EGD effects on lotteries, two sample sets were similarly constructed and kept “relatively clean” by excluding states/provinces with casino operations.

6.3 Analysis

The Effect of Casinos on the Annual Rate of Growth of Lottery Sales

When the analysis of variations in data set averages was applied to lottery sales, surprisingly consistent results were obtained. A strong correlation was detected between the presence of casinos and a reduction in the compound annual rate of growth of lottery sales. The presence of casinos in a state depresses the compound annual growth rate of lottery sales by at least 2% per year and possibly as much as 9% per year. A reasonable net effect to use for planning purposes is about a 4% reduction in compound annual growth rate.

We ran hundreds of iterations of the analysis, examining trends in sales growth under numerous scenarios. For example, we compared lottery sales trends in casino versus non-casinos states as we varied the maturity of the lotteries we accepted into a particular data set. So one analysis examined impacts of two-year old casinos on lotteries that had been operating for two or more full fiscal years. Another analysis examined impacts of two-year old casinos on lotteries that had been operating for three or more full fiscal years, and another on lotteries operating for four or more full fiscal years. We also varied casino maturity. Thus, analyses were conducted on the full matrix of lottery/casino maturity levels. In other words, we ran analyses on *all* reasonable combinations of lottery/casino maturity.

⁴⁶ Larger effects can be seen in relatively small data sets. Smaller “signals” require larger data sets to see and size the effects. Once the threshold of detection is crossed, the precision of the estimate of the size of an effect continues to increase as data set size increases.

Regardless of lottery or casino maturity, consistent results were obtained.

Figure 6-1 charts the data in Table 6-1 to show a typical result in our analysis of lotteries from FY 1993 to FY 1995. Two data sets were generated for each year: one set consisted of annual sales growth by lotteries *with* casino competition and one set of sales by lotteries *without* casino competition.⁴⁷ The last column of Table 6-1 contains a compound average. This compound average is the three year *constant* rate of growth that would be required to produce the same aggregate growth rate as the individual results for each of the three fiscal years.

Figure 6-1

**Lottery Sales Annual Growth Rates of Lottery-Only States/Provinces vs. Casino States/Provinces
(One or More Full Years of Casino Operations & Two or More Full Years of Lottery Operations)**

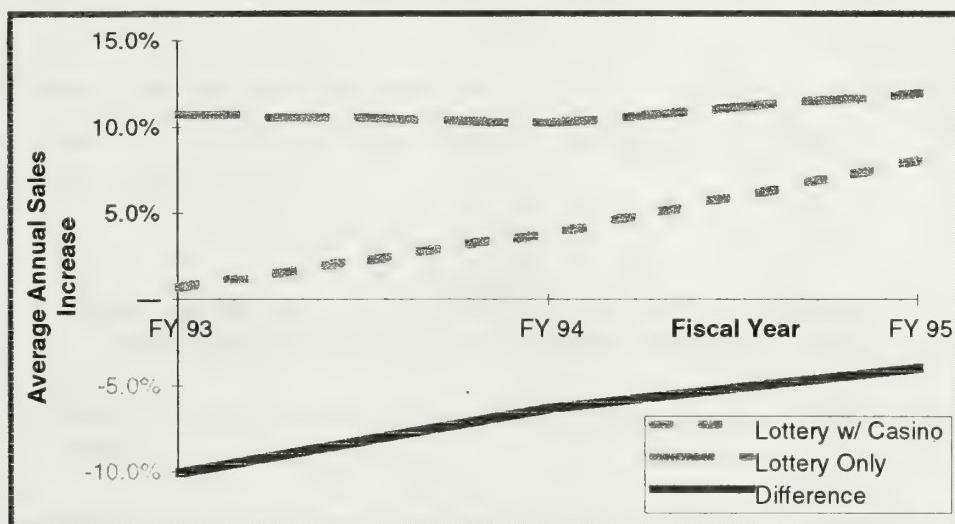


Table 6-1
Annual Sales Growth Rates and Differentials for FY 93 through FY 95
(Lottery Operating 2+ Years & Casino Operating 1+ Years)

Avg Increase	FY 93	FY 94	FY 95	Compound Average
Lottery w/ Casino	0.8%	4.0%	8.1%	4.3%
Lottery Only	10.8%	10.3%	12.0%	11.0%
Difference	-9.9%	-6.3%	-3.9%	-6.8%

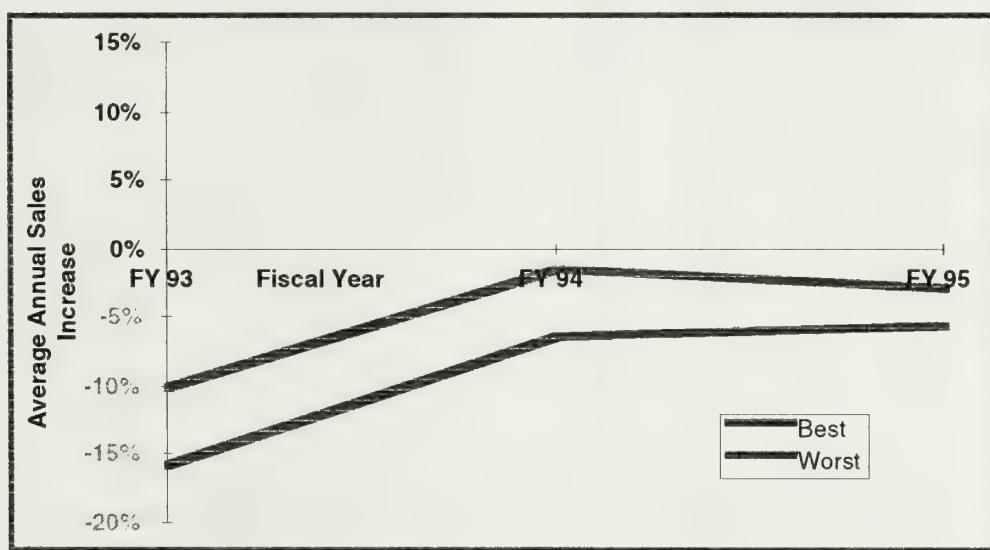
⁴⁷ For this study, Rhode Island was considered to have local casino competition starting with the opening of the Ledyard casino across the border in Connecticut.

The particular data sets selected for Table 6-1 were restricted to states/provinces that had no EGDs and at least two full years of lottery operations. One set of states/provinces had casinos operations for at least one full year and the other set of states/provinces had no casino operations.

The results shown in Figure 6-1 are consistent with the results obtained when much greater maturity was required in the lotteries. To test this, we constructed data sets where all lotteries had at least one full year of operating experience. A chart like Figure 6-1 was plotted. Then new data sets were generated excluding all but those casinos with at least two full years of operating experience. This continued, year-by-year until only the most mature lotteries were included. By the time we reached 15+ years of experience, the data sets were too small for effective analysis.

For the case of 1+ through 12+ years of lottery operations, Figure 6-2 plots, for each fiscal year, the greatest and the least impacts of casinos on lottery sales growth. In each case, the line equivalent to the solid blue line shown on Figure 6-1 (net impact of casinos on sales growth) always fell between the two blue lines shown on Figure 6-2. Note that the results from scenario to scenario were quite consistent.⁴⁸ The impact of casinos in each fiscal year was always between the upper and lower lines.

Figure 6-2
Range of Lottery w/ Casino vs. Lottery-Only Growth Rate Differentials
(Lottery Operating 1+ to 12+ Years & Casino Operating 1+ Years)



⁴⁸ This was true all the way up to demanding at least 14 years of lottery operations. Above 14 years, the size of the samples became too small to do effective year-to-year analysis.

Two additional (expected) findings were:

- lotteries with less than one full year of operation had such volatile sales growth that they were ultimately excluded from the analysis, (thereby controlling for transient lottery start-up effects), and
- lotteries with only one full year of operation appeared to be somewhat more vulnerable to casino operations, but it was not possible to quantify this result further.

As stated, the sensitivity of this analysis to the number of years of casino operations was also tested. Table 6-2 shows the results for a matrix of lottery/casino ages both with and without the Canadian data. The first column shows the minimum number of full years of lottery operations. The higher this number, the older the lotteries in the analysis were. As the number of operating years for casinos increases, fewer states qualify for inclusion in the data set for each fiscal year. Relatively few states have casino operations older than two or three years, and this limited the number of years that qualified to be in the averages covering 2+ and 3+ years of experience.

Table 6-2
Difference in Rate of Sales Increase of States/Provinces with Casinos
vs. Lottery-Only States/Provinces
(Equivalent Constant Compound Rate Over FY 93-95)

U.S. States				U.S. States + Canadian Provinces			
Lottery	Casino Operating Years			Lottery	Casino Operating Years		
Years	1+	2+	3+	Years	1+	2+	3+
1+	-9.4%	-5.6%	-3.0%	1+	-5.7%	-4.9%	-2.1%
2+	-6.9%	-5.6%	-2.5%	2+	-6.8%	-4.8%	-2.9%
3+	-4.9%	-2.6%	-1.7%	3+	-4.9%	-2.1%	-1.0%
4+	-5.1%	-2.8%	-2.0%	4+	-5.0%	-2.1%	-1.0%
5+	-5.5%	-2.6%	-2.0%	5+	-5.4%	-2.6%	-1.0%
6+	-6.2%	-2.4%	-1.5%	6+	-5.9%	-2.8%	-0.5%
7+	-6.7%	-3.0%	-1.6%	7+	-6.3%	-2.2%	-0.4%
8+	-6.8%	-3.7%	-3.1%	8+	-6.5%	-2.7%	-1.5%
9+	-7.4%	-3.5%	-3.1%	9+	-7.0%	-2.5%	-1.5%
10+	-7.6%	-4.0%	-3.5%	10+	-7.3%	-2.8%	-1.6%
11+	-7.8%	-4.0%	-3.5%	11+	-7.7%	-3.2%	-2.3%
12+	-8.1%	-4.6%	-3.5%	12+	-8.0%	-3.8%	-2.3%
Averaged Fiscal Years				Averaged Fiscal Years			
FY 95	FY 95	FY 95		FY 95	FY 95	FY 95	
FY 94	FY 94			FY 94	FY 94		
FY 93				FY 93			

The entries in Table 6-2 are color coded to make the trends in the table more apparent. Compound growth rate impacts in the range of 3% to 6% are coded blue. Red denotes a greater impact, and green denotes a lesser impact. The results for 1+ full years of casino operations enjoy the largest data sets and are the most reliable.

The above analyses were based on the average *aggregate* sales of all lotteries in each data set. Since that average is more influenced by the larger lotteries in the set, it may mask relatively large effects on smaller lotteries. To test whether there might be a different result if small lottery results were more equally rated, all analyses were re-run with a second averaging method, where a separate growth (or decline) rate was calculated for each lottery in the data set, and then an average was taken of those growths/declines, independent of the revenues underlying them. This “average of averages” gives equal weight to each lottery independent of its sales volume. The results produced by the average of averages were somewhat more volatile in growth rate effects for both casino states and lottery-only states. However, the difference in growth rates between casino and lottery-only states was within two or three percentage points of the average of aggregated sales data. The choice of averaging method does not change the results of this analysis.

The Effect of Electronic Gaming Devices on the Annual Rate of Growth of Lottery Sales

An analysis of EGD effects was run in a manner similar to the casino effect analysis. U.S. lottery and EGD data alone produced small EGD sets whose sizes were below the threshold required for effective small signal analysis. By adding the Canadian data, the situation was improved to the point where there were strong indications of a negative effect of EGDs on lottery sales.

A critical problem was that there was one EGD lottery, Oregon, whose lottery sales were much larger than any other lottery in the data base. Most of the EGD data points were from states/provinces with smaller lotteries. Hence the few data points from Oregon tended to overwhelm the greater number of data points from the smaller lotteries. There were no other large lottery data points to offset Oregon and thus enable the averaging effect needed for small signal analysis. Thus we elected to exclude the Oregon data from 1992 and later years (the years that Oregon had EGDs) from the analysis. Once this was done, a clear and consistent pattern emerged that linked EGDs with lower lottery sales growth rates.

The figures and tables that emerged from the analysis resembled those produced for the casino analysis. Table 6-3 below is the EGD equivalent to Table 6-2 for casinos. The entries have been color coded so that entries in the middle range of results, -2.0% to -4.0%, are blue. More negative entries are red. Less negative entries are green. Positive entries are black. the “—” entry indicates that there were too few EGD states to generate a reliable average.

The results for 1+ full years of casino operations enjoy the largest sample sizes and are the most reliable. In general, the most reliable results (larger sample sizes) are in the upper left corner of the matrix and the less reliable results (smaller sample sizes) are in the lower right corner of the matrix. Compared to Table 6-2 (casinos), Table 6-3 (EGDs) has more entries closer to zero. Five of the 36 entries were small positive percentages clustered in the middle and to the right of the table where the sample sizes are smaller and the results less reliable.

Table 6-3
Difference in Rate of Sales Increase of States/Provinces with EGDs
vs. Lottery-Only States/Provinces
(Equivalent Constant Compound Rate Over FY 93-95)

U.S. States + Canadian Provinces

Lottery Years	EGD Operating Years		
	1+	2+	3+
1+	-3.1%	-3.6%	-3.2%
2+	-2.8%	-1.7%	-3.2%
3+	-0.9%	+0.1%	-0.5%
4+	-0.8%	+0.2%	-0.5%
5+	-0.9%	+0.2%	-0.4%
6+	-1.3%	+0.3%	-0.5%
7+	-2.6%	-1.6%	-2.0%
8+	-4.0%	-2.2%	+2.1%
9+	-4.6%	-7.5%	+2.6%
10+	-6.5%	-11.0%	—
11+	-6.9%	-11.8%	—
12+	-7.3%	-11.8%	—
Averaged Fiscal Years			
FY 95	FY 95	FY 95	
FY 94	FY 94		
FY 93			

Conclusions

Casino Impact

Analysis of lottery sales over the last three fiscal years (FY 93 through FY 95) produced the largest data sets and generated highly consistent results for differences across state and provincial lotteries with and without casino competition. These three year results suggest an overall negative casino effect in the range of 4% to 5%. Over a multi-year period the compound effect of a 4-5% slowing of annual growth rate will result in a substantial suppression of lottery sales relative to what would have occurred in the absence of casino competition.

Electronic Gaming Device Impact

Analysis of lottery sales with respect to EGD impact showed a negative effect on lottery sales growth rates in the small single digit percentages. There was insufficient data to accurately quantify the effect.

Combined Impact of Casinos and Electronic Gaming Devices

The database available produced sample sizes too small to determine the combined effect of casino and EGD competition on lotteries.

Chapter 7

Projections for Casino/Device Performance

7.1 *Introduction*

In order to assess the impacts of casinos and gaming devices in Massachusetts on the State Lottery and charitable games, we have developed estimates for the likely performance of the new gaming operations under five alternative scenarios:

1. Casino in New Bedford (only)
2. Casinos in New Bedford and Western Massachusetts
3. Casino at New Bedford (but not in Western Mass.), and 700 gaming devices at each of the Commonwealth's four commercial race tracks (Suffolk Downs, Wonderland Park, Foxboro Park, and Raynham/Taunton Greyhound Park)
4. Casinos at both locations plus devices at the tracks
5. 700 devices at each track, with no full-scale casinos.

Our analyses of the experience in other states indicate that there is a relationship between the performance of casinos, in terms of visitation or win, and their impacts on other games. Limitations on the type of "casino gaming" allowed, and/or on the locations in which it is allowed, will affect both the levels of revenues it achieves and its impacts on other games; that is, the greater the casino win, the greater are the casinos' impacts likely to be on the Lottery, charitable games, and other sectors of the economy.

By way of background, casino gaming was introduced to the East Coast by the State of New Jersey in the spring of 1978. Eager customers swarmed to Atlantic City, and its first casino (Resorts International) immediately bulged at its seams; by the early 1980s a dozen casinos were in place. A plateau of sorts was reached in the late 1980s, when continuing restrictive state regulation, high-cost junk bond financing, and a lack of investment in Atlantic City infrastructure, human capital, and ancillary attractions limited its growth. Moreover, Native American casinos began to emerge in the early 1990s: Foxwoods opened at Ledyard, Connecticut, in February, 1992, and Turning Stone, at Verona, New York (between Utica and Syracuse), in July, 1993. Moreover, casinos opened in Montreal, Quebec, in late 1993, in Windsor, Ontario in early 1994, and subsequently, in additional locations in Quebec.

All these casinos have drawn to some degree from New England, but by far the most prominent has been Foxwoods. Since adding slot machines early in 1993 (it was originally limited to table games), it has added one new wing after another. Turning Stone remains limited

to table games, and its growth has been strong, but not nearly so explosive. Even Atlantic City has now returned to growth, spurred by the new competition, by casino companies' internal financial restructurings, and by more progressive state regulation. Total casino win in the Northeastern U.S. approached \$5 billion in 1995, with about another C\$1 billion won in Eastern Canada.

These developments document the enormous popularity of casino gaming. Surveys across the U.S. indicate that substantial proportions of the adult population with convenient access to them visit casinos each year; in our survey of Massachusetts residents, for example, 22 percent indicated they had visited a casino within the past year, most often Foxwoods. Our analyses of customer spending patterns, described in detail in Appendix B, suggest that the adults who live within ten miles of a casino spend an average of three to five hundred dollars per year at them. These figures are higher than those for state lotteries, even the most successful such as Massachusetts's: the Commonwealth has consistently ranked first among all U.S. lotteries in terms of annual sales per capita, at \$465 in Fiscal 1995, but this translates into only about \$205 in *revenues* (net of prizes) per adult. As described in the previous chapters, when casinos (and/or gaming devices) have been introduced to other states, their revenues have usually quite quickly outstripped those of their corresponding state lotteries, and they have had adverse impacts upon them.

Our analyses of casino markets elsewhere are described in Appendix B. In brief, our research indicates quite strongly that other things being equal, casino customers (like the consumers of most other leisure and entertainment products) typically tend to patronize the nearest, most accessible facility. We have therefore examined the geography and demographics of New England quite thoroughly from this perspective. A map of Massachusetts is presented in Exhibit 7-0-1; the existing "full" casino at Ledyard, Connecticut is indicated by the darkest large star. The casino proposed for Montville, Connecticut (now under construction) is indicated by a lighter large star just west of Foxwoods; we have used similar large stars to indicate the locations of the casino proposed for New Bedford and for (an assumed location in) Western Massachusetts, in the Springfield/Holyoke area. The two existing Rhode Island pari-mutuel facilities with electronic gaming devices at Lincoln and Newport are indicated by smaller, circled dark stars. The white stars inside a small dark circle indicate the Massachusetts tracks' locations, at (from north to south) Revere, East Boston, Foxborough, and Raynham. To the north, we have indicated New Hampshire pari-mutuel facilities with smaller, open stars.⁴⁹

⁴⁹ In those scenarios in which we assume that there are casinos in Massachusetts, we assume that they are also allowed in New Hampshire, and that they are located at that State's race tracks. In Scenario 5,

Exhibit 7-0-1

Legend

- 250,000-999,999 * Military Base
- 100,000-249,999 State Capital County Seat
- 50,000-99,999
- ◆ 25,000-49,999
- 10,000-24,999
- Less than 1,000
- 10 Miles
- 5 Miles
- 3 Miles
- 1 Mile

State	Population
Vermont	61,850
New York	1,270,000
Massachusetts	1,000,000-249,999
Rhode Island	Less than 1,000
Connecticut	50,000-99,999
New Hampshire	100,000-249,999
Salem	25,000-49,999
Hinsdale	Less than 1,000
Ledyard	Less than 1,000
Montville	Less than 1,000
Newport	25,000-49,999

Notes: Connecticut's 1900 population was 500,000. Rhode Island's 1900 population was 9,693. Connecticut's 1900 area was 4,999 square miles. Rhode Island's 1900 area was 1,000 square miles.

THE GAMING STRATEGY GROUP

they are actually almost as close to Foxwoods as they are to Atlantic City, and Foxwoods appears to obtain some customers from them). The penultimate “source” area is “New Hampshire / Vermont / Maine;” we have then, below the “Subtotal” line, calculated visitors from more distant areas (in terms of “resident-equivalents,” in keeping with our distance-adjusted perspective) as percentages of the total for each casino market.

In this exhibit, we have separated “Gaming Device Markets” on the left from “Table Game Markets” on the right, because Rhode Island offers only the one and Turning Stone, in upstate New York, only the other. In the aggregate, the Table Markets are smaller than the Gaming Device Markets; this occurs because Rhode Island contributes more substantially to the former than to the latter.⁵² It is important to note that these different contributions are not a zero-sum game: by making gaming devices more accessible to its residents, Rhode Island improves the “distance factor” applicable to them, and their higher spending is reflected in our estimate of a higher distance-adjusted Slot Market population.

At the bottom of Exhibit 7-0-2, the estimated contributions from non-residents of these areas are represented by “equivalent” populations. Unlike the situation in Nevada, Mississippi, and some international casino markets, a relatively modest proportion of these casinos’ business comes from people who do not reside nearby. (Note, however, that we are including only a fraction of the market areas for Atlantic City and Turning Stone in this analysis. Their total markets are much larger than shown here.)

Based upon the analyses described in more detail in Appendix B, we then estimated casino spending per (distance-adjusted) resident adult. A summary of our findings for the nearby and other most relevant markets is presented in Exhibit 7-0-3, which also outlines the development of the spending ratios we have projected for the region in the future. Atlantic City casinos’ current revenues, when “spread out” over the adult population within roughly a 300-mile radius (but closer to Atlantic City than to competing casinos), amount to \$285 per distance-adjusted adult for slot machines and \$130 for table games. (The ratio between the two is fairly typical; about seventy percent of most U.S. casinos’ gaming revenues now come from slots.) The spending ratios vary from market to market, but in our opinion cluster around \$330 per adult for machine spending and \$130 for table games at “full” land-based casinos.⁵³

⁵² A reverse effect begins to occur in central New York near Turning Stone, but because our area of interest does not extend that far, it does not outweigh the effect of Rhode Island.

⁵³ These estimates are for “full.” land-based casinos, which offer both tables and slots and do not have to cruise like most riverboats. (Cruising makes riverboat casinos less attractive because consumers cannot come and go when they wish.) In developing our projections, we have used only slot spending

As indicated in the exhibit, for our future projections we have estimated that "full-spectrum" gaming devices (that is, all types are allowed)⁵⁴ -- at "full-time" (that is, at least 16 hours per day) race track facilities would attract slot spending at about eighty percent of the full-casino rate. This is because there is some, but not much, cross-over between table and slot players, and because some slot players will travel with their spouses to full casinos (even if more distant) so the spouse can play table games.

We have applied ratios based upon these analyses to the distance-adjusted market populations for the various facilities in the area to develop our "Status Quo" estimates for current casino spending. These estimates are summarized in Exhibit 7-0-4, which is in the same format as Exhibit 7-0-2. The spending of the residents of Eastern Massachusetts, for example, is projected under current conditions to flow \$145.9 million to Foxwoods slots, \$3.3 million to Rhode Island's gaming devices (which as video-only [no real spinning reels], voucher-output-only [no coins or tokens] devices are significantly less attractive than "full-spectrum" machines), \$24.1 million to slots in other states (primarily New Jersey), \$88 million to Foxwoods tables, and \$11.3 million to table games in other states, for a total of \$272.7 million. We estimate that the residents of Western Massachusetts are currently spending about \$96.3 million; the residents of the State as a whole are thus *already* spending about \$369 million in other, nearby states each year. Casino gaming is thus already a major line item in the leisure and entertainment budgets of the citizens of the Commonwealth, even though casinos are not located very conveniently for most of them. And as we project below, their rate of spending will increase substantially when casinos and/or gaming devices are introduced to Massachusetts itself.

from Colorado; although table games are also legal there, that State's \$5 betting limit makes them relatively unattractive to customers and unprofitable for casino operators, so table spending is artificially depressed in that State. We have added the indicated margins to the historical spending ratios for Foxwoods in an effort to more truly reflect actual demand, because its revenues clearly continue to be constrained by capacity limitations. These ratios also omit the (relatively minor) amounts spent at distant "destination" casino resorts, such as those in Las Vegas and the Caribbean.

⁵⁴ Some jurisdictions prohibit spinning-reel games, which are the most popular, or have other types of restrictions.

7.2 Performance Estimates for Specific Scenarios

Scenario 1: New Bedford Casino Only

Scenario 1 assumes the development of a large, full-featured casino at New Bedford as proposed by the Wampanoag Tribe of Gay Head. No other new casinos are assumed in Massachusetts, and no gaming devices are assumed at its tracks. With regard to other competition, we assume the completion of the Mohegan Tribe's casino at Montville, Connecticut (ten miles west of Ledyard), the authorization of full casinos at or near the race tracks of New Hampshire, and the ultimate authorization of a full casino at some location in Rhode Island.

Exhibit 7-1-1 summarizes our projections for the "distance-adjusted" populations for the market areas of each of these casinos with respect to gaming devices (again, table-game markets may differ because some facilities, such as Rhode Island's today, offer one but not the other; in this scenario such differences are slight, but we present the figures in order to illustrate the projection process). There are also columns for Western Massachusetts, Raynham/Foxboro, and Suffolk/Wonderland -- these are currently filled with zeros, since Scenario 1 (New Bedford casino only) assumes no gaming facilities for them (they will have gaming facilities in later scenarios).

In Exhibit 7-1-2, we have multiplied the distance-adjusted population figures for each market by our estimates of future spending per adult, which were developed, as described above, from our analyses of these and other markets. These estimates are consistent with the results of our telephone survey in Massachusetts, but were not directly derived from it.⁵⁵ Reading down the "New Bedford" column, we project for this casino a total of \$335.8 million in gaming-device win. (If the casino were to have 3,000 such devices, the win per day per machine would be \$307, a figure reflective of crowded conditions, but not overwhelmingly crowded.) Reading across the "Massachusetts" rows, we project that Eastern Mass. residents would then be spending \$545.5

⁵⁵ The sample size of 1,000 adults, while sufficiently large to permit conclusions on a statewide or large-scale geographic basis ("East" versus "West," for example), is not large enough to provide county-by-county results with the precision required for projections in the relatively congested markets of New England. The prime input from the survey results in this context is an assurance that the residents of Massachusetts find casino games almost equally as attractive as we have found in other states.

million on gaming devices, with much money still leaving the state, and Western Mass. residents then spending about \$124.6 million.⁵⁶

Exhibits 7-1-3 and 7-1-4 present the corresponding projections for distance-adjusted table-game market populations (again, in this scenario little different from those for the gaming-device markets) and table-game spending.

Exhibit 7-1-5 presents the combined revenues for the devices and table games. In total, the New Bedford casino is projected to win about \$468.2 million, about half the amount that Foxwoods is winning today. The New Hampshire casinos are projected to win about \$729.5 million, about half of which (\$381 million) is projected to come from Massachusetts. In total, Eastern Massachusetts residents are projected to be spending \$761.4 million a year at all casinos under this scenario (exclusive of destination resorts such as Las Vegas), and Western Massachusetts residents, \$174.2 million. The total for the State, at \$936 million, is about 2.5 times the \$369 million estimated for the “Status Quo” (Exhibit 7-0-4).

Scenario 2: New Bedford + Western Mass. Casinos

Under Scenario 2, in addition to the New Bedford casino to be developed by the Wampanoags, it is assumed that a large commercial casino is developed in Western Massachusetts, as allowed by House Bill 5518, in the Springfield/Holyoke area. The competitive environment is assumed to otherwise remain the same as in Scenario 1, including the completion of the Mohegan Tribe’s casino at Montville, Connecticut, the authorization of casinos at or near the race tracks of New Hampshire, and the ultimate authorization of a full casino at some location in Rhode Island.

Exhibit 7-2-1 presents our projections for spending on gaming devices under this scenario, and Exhibit 7-2-2 presents projections for table games. The primary changes from Scenario 1 are, as could be expected, in Western Massachusetts. While some residents of this area

⁵⁶ The increase from Western Massachusetts is due in large part not to the New Bedford casino (it would actually be no more convenient for them than Foxwoods is today), but to the assumption that there would also be a full casino at Hinsdale, New Hampshire. It is also due in small part to a rise in overall rates of spending in the region allowed by the addition not only of the New Bedford and New Hampshire casinos but also of those at Montville, Connecticut, and in Rhode Island. These new casinos will relieve the capacity constraints at Ledyard, constraints which our analysis suggests continue to depress current rates of spending from the region. Thus, under this scenario, gaming-device win in Connecticut actually *increases* slightly from the current day. Although the contribution from Massachusetts declines substantially, the shares from Connecticut and New York/New Jersey have significant room to rise (particularly with the new casino at Montville being located ten miles closer to New York than Ledyard, and much closer to the Interstate).

(primarily the residents of Worcester county, which would not be much farther from Ledyard than from any Massachusetts casino, and Franklin County, near Hinsdale, New Hampshire), would still spend some money at casinos in other states, their casino would conversely attract substantial amounts of spending *from* other states. Due to projected contributions from Connecticut (Hartford) and New York (Albany/Schenectady), our projected casino win for the Western Massachusetts facility is almost equal to that of the New Bedford casino.⁵⁷

Exhibit 7-2-3 presents the combined revenues for devices and table games under this scenario. The New Bedford casino is now projected to win about \$433 million, and the Western Massachusetts casino about \$431 million. Under this scenario, Eastern Massachusetts residents are still projected to be spending \$761.6 million a year at casinos, almost no change from Scenario 1 -- only the locations of that spending have been reshuffled, slightly. Western Massachusetts residents, however, are now projected to be spending \$283.8 million, about triple the "Status Quo" estimate of \$96 million (and 63 percent higher than under Scenario 1). Total (nearby) casino spending by all residents of the Commonwealth is projected at \$1.045 billion.

Scenario 3: New Bedford Casino + Devices at Tracks

Under Scenario 3, there is assumed to be a casino in New Bedford but *not* one in Western Massachusetts. Instead, each of the State's four commercial race tracks (Suffolk Downs, Wonderland Park, Foxboro Park, and Raynham/Taunton) are assumed to install 700 electronic gaming devices, as defined in House Bill 5520.⁵⁸ For the customer, the race track operations are assumed to be comparable in most respects with the slot-machine areas of full-scale casinos except for their association with table games. Hours of operation are not assumed to be limited.

The competitive environment is assumed to remain unchanged from Scenarios 1 and 2; as in those scenarios, we continue to assume full casinos at or near the pari-mutuel facilities of New Hampshire. With table games as well as slot machines, we have assumed that these facilities will be somewhat more attractive than those of the Massachusetts tracks; because, however, the Mass.

⁵⁷ These projections assume no casinos in Hartford, none in Eastern Upstate New York, and no gaming devices at other pari-mutuel facilities in the area. Any of these might have significant adverse impacts on Western Massachusetts casino win.

⁵⁸ The definition of the types of machines allowed the tracks is not completely clarified in this Bill. There is some ambiguity with regard to "progressive" slot machines, in which a large jackpot accumulates over time through the play of customers at many linked machines. Since these are a significant popular attraction, we have assumed that they, as well as a broad array of other attractive, cash- or token-output machines are ultimately authorized at the tracks.

tracks are located more conveniently for a large segment of the population, we would still expect them to attract large volumes of business.

This is indeed indicated in our projections. Exhibit 7-3-1 presents our estimates of the demand for such machines at the various facilities under this scenario; we emphasize that “demand” is shown in this exhibit, because with only 700 machines each, the race tracks will not be able to accommodate all the projected demand. We estimate that each track could actually generate, over the long term, about \$300 per machine per day, or \$76.6 million in win per year. The effects of this constraint are indicated in Exhibit 7-3-2, as well as the consequent “spillover” effects as some of that unsatisfied demand flows to the full casinos in the area (reduced, however, by the greater distance to the casinos).

Table-game demand and revenues, as indicated in Exhibit 7-3-3, remain unchanged from Scenario 1. Although they will divert some previous casino slot-machine spending, we do not expect the race track gaming devices to have any meaningful effect on patterns of casino table game spending.

Combining gaming devices and table games, Exhibit 7-3-4 indicates projected total spending/revenues by source and destination under this scenario. In total, Massachusetts residents (both east and west) are projected to spend \$1.114 billion on nearby casino games, about three times the amount we estimate they are spending today.

Scenario 4: Both Casinos + Devices at Tracks

Under this scenario, we assume *both* casinos (as in Scenario 2) as well as gaming devices at the tracks (as in Scenario 3). With the casino in Western Massachusetts an additional outlet for gaming-device demand, Exhibit 7-4-1 indicates that the tracks would be slightly less overwhelmed than under Scenario 3, with a casino only in New Bedford: a few residents of Worcester and Middlesex counties will go instead to the Western Massachusetts casino. We still project the tracks to be capacity-constrained, however, and limited to about \$76 million in annual win each (Exhibit 7-4-2), with some of the demand “spilling over” to New Bedford and Foxwoods.

Table-game demand, presented in Exhibit 7-4-3, remains as projected under Scenario 2.

Combined table and machine revenues are indicated in Exhibit 7-4-4. Under this, the most intensive scenario examined regarding gaming facilities in the Commonwealth, the aggregate

spending of its residents on gaming machines and tables is projected at \$1.232 billion, more than 3.3 times the level we estimate for the current day.

Scenario 5: Devices at Tracks Only (No Casinos)

Scenario 5 assumes *no* full casinos in Massachusetts, but 700 gaming devices at each of the four commercial race tracks (as in Scenario 3, but without casinos in Massachusetts). New Hampshire and Rhode Island are similarly assumed to authorize no full casinos, but to allow gaming devices at their tracks in a fashion similar to Massachusetts. Although Rhode Island already allows such devices, we assume under this scenario that they would be allowed to pay out in coins or tokens to be competitive with the (assumed) machines in Massachusetts.⁵⁹

As could be expected, with no casinos in the Commonwealth the projected demand for gaming devices at the tracks far exceeds the assumed supply. Our projections for this demand are indicated in Exhibit 7-5-1, along with that for the devices at casinos in other states. Exhibit 7-5-2 indicates our estimates of actual spending, after the assumed capacity constraints; again, with only 700 machines, the track facilities are each limited to about \$76 million in revenues per year. Substantial amounts of device spending would still flow from Massachusetts to other states; and table-game spending, presented in Exhibit 7-5-3, is very similar to that of the present day.

Total spending on both tables and devices under this scenario is depicted in Exhibit 7-5-4. Massachusetts residents, east and west, are projected to spend about \$873 million per year, more than double the estimated rate of today. Interestingly, this total almost matches that of Scenario 1, the New Bedford casino alone. This occurs because the track facilities, located with better access to parts of the Commonwealth more densely populated than the New Bedford area, would (if sufficiently attractive) stimulate substantial *incremental* demand, while doing less to divert existing Massachusetts dollars now being spent at Foxwoods. In particular, without a full casino or two, there would be no diversion of any of the approximately \$120 million in table-game spending we estimate currently flows from the Commonwealth to the casino in Connecticut. There would be, in addition, lesser prospects for attracting out-of-state spending *into* Massachusetts. For these reasons, in addition to the more favorable locations of the tracks versus New Bedford, this scenario results in net spending by the residents of the Commonwealth very close to that of Scenario 1, and is thus likely to have similar impacts on the Lottery and charitable games.

⁵⁹ Rhode Island's machines currently pay out only in vouchers, which can then be redeemed for cash. Our studies indicate consumers substantially prefer coin- or token-output machines.

Exhibit 7-0-2: Current Casinos' Distance-Adjusted Market Populations ("Status Quo")(thousands of adults, adjusted to "within ten miles")¹

To:

Gaming Device Markets:**Table Game Markets:**

From:	Foxwoods	Rhode Island	Other States	Total Devices	Foxwoods	Rhode Island	Turning Stone	Other States	Total Tables
E. Mass.	684.2	19.9	86.1	790.2		703.0	0.0	0.0	87.2
W. Mass.	241.0	2.8	34.0	277.8		242.0	0.0	2.9	32.9
Connecticut	790.4	0.3	58.3	849.0		790.7	0.0	0.0	849.0
Rhode Island	206.8	394.6	32.2	633.5		247.1	0.0	0.0	18.8
E NY/N NJ	447.2	0.0	1,654.5	2,101.7		433.8	0.0	200.2	1,467.8
NH/VT/ME	190.5	0.0	96.6	287.0		190.5	0.0	3.9	92.7
Subtotal	2,560.1	417.5	1,961.7	4,939.3		2,607.2	0.0	206.9	1,757.7
Plus: Visitor %							7%	5%	5%
Visitor #	134.7	12.9	103.2	250.9		196.2	0.0	10.9	92.5
TOTAL	2,694.8	430.4	2,064.9	5,190.2	2,803.4	0.0	217.8	1,850.2	4,871.4

¹ The population of each market area has been scaled to reflect distance to each relevant gaming facility. They have also been adjusted for competition from casinos in other states, urban/rural, and per capita income factors.

Exhibit 7-0-3: Development of Ratios for Massachusetts Projections

(Based upon Most Comparable Markets)

28-Jun-96

	Annual Spending Per Adult¹	
	Machines	Tables
Averages from Other Markets:		
Atlantic City	\$284.95	\$130.13
Colorado (devices only)	323.61	
Foxwoods (CT) (+20/10%)	251.80	141.46
Mississippi	384.69	164.86
Montana + S. Dakota VLTs (avg.)	331.88	
Major Iowa Riverboats (avg.+10/20%)	306.98	97.08
Iowa Track Slots (avg.)	318.18	
<hr/>		
Averages (then dollars)	\$314.58	\$133.38
(1996 dollars)	\$324.02	\$137.38

GSG Projections: (per adult)

Full (land-based) Casino	\$330.00	\$130.00
"Full-Spectrum, Full-Time" Devices at Tracks (All types of machines, coin in and out)	\$264.00	
(Ratio versus Full Casino)	80%	

¹ Adjusted for distance, income, and competitive factors.

Exhibit 7-0-4: Current Spending On Nearby Gaming Devices and Table Games

(millions of 1995 dollars)

To:		Gaming Devices:			Table Games:			Combined:		
From:	Foxwoods	Rhode Island	Other States	Total Devices	Foxwoods	Rhode Island	Turning Stone	Other States	Total Tables	Grand Total
E. Mass.	\$145.9	\$3.3	\$24.1	\$173.3	\$88.0	\$0.0	\$0.0	\$11.3	\$99.4	\$272.7
W. Mass.	51.4	0.5	9.5	61.4	30.3	0.0	0.4	4.3	34.9	96.3
Connecticut	168.5	0.0	16.3	184.9	99.0	0.0	0.0	7.6	106.6	291.5
Rhode Island	44.1	65.5	9.0	118.6	30.9	0.0	0.0	2.4	33.4	152.0
E NY/N NJ	95.4	0.0	463.3	558.6	54.3	0.0	26.0	190.8	271.1	829.8
NH/VT/ME	40.6	0.0	27.0	67.6	23.8	0.0	0.5	12.1	36.4	104.0
Subtotal	\$545.9	\$69.3	\$549.3	\$1,164.5	\$326.4	\$0.0	\$26.9	\$228.5	\$581.8	\$1,746.3
Plus (5%+): Visitor \$	\$28.7	\$2.1	\$28.9	\$59.8	\$24.6	\$0.0	\$1.4	\$12.0	\$38.0	\$97.8
TOTAL	\$574.6	\$71.4	\$578.2	\$1,224.2	\$351.0	\$0.0	\$28.3	\$240.5	\$619.8	\$1,844.1
Estimated Spending Base / Resident	\$213.23	166.00	280.00		125.20	130.00	130.00	130.00		

Exhibit 7-1-2: Demand for Gaming Devices (Slots) at Nearby Facilities -- Scenario 1

(millions of 1996 dollars)

Exhibit 7-1-2a: Gaming Device (Slot) Revenues, after Constraints -- Scenario 1

(millions of 1996 dollars)

From:	To:	Massachusetts:						Grand Total	
		Other States: Conn.	Rhode Island	New Hampshire	Other States	Subtotal	New Bedford	Suffolk/ W'land	
E. Mass.	\$13.7	\$13.7	\$227.8	\$14.7	\$270.0	\$275.4	\$0.0	\$275.4	\$545.5
W. Mass.	37.4	18.7	45.7	7.7	109.4	15.1	0.0	0.0	15.1
Connecticut	290.5	2.6	0.0	9.8	302.9	2.5	0.0	0.0	2.5
Rhode Island	38.0	150.0	0.0	2.9	190.8	17.7	0.0	0.0	17.7
E NY/N NJ	191.1	6.5	17.3	436.2	651.1	6.5	0.0	0.0	6.5
NH/VT/ME	2.6	1.8	206.9	25.1	236.3	1.8	0.0	0.0	1.8
Subtotal	\$573.3	\$193.3	\$497.7	\$496.2	\$1,760.6	\$319.1	\$0.0	\$0.0	\$319.1
Plus (5%+):									
Visitor \$	\$30.2	\$10.2	\$26.2	\$26.1	\$92.7	\$16.8	\$0.0	\$0.0	\$16.8
TOTAL	\$603.4	\$203.5	\$523.9	\$522.4	\$1,853.2	\$335.8	\$0.0	\$0.0	\$335.8
Effective Spndng									
Base	\$330.00	330.00	330.00	280.00	330.00	330.00	264.00	264.00	\$2,189.1

Exhibit 7-1-3: Distance-Adjusted Table-Game Market Populations -- Scenario 1(thousands of adults, adjusted to "within ten miles")¹

From:	To:	Other States:					Massachusetts:					Grand Total
		Conn.	Rhode Island	New Hampshire	Other States	Subtotal	New Bedford	Western Raynham/Mass.	Foxboro	Suffolk/W'land	Subtotal	
E. Mass.	41.6	41.6	690.5	52.5	826.2	834.7	0.0				834.7	1,660.9
W. Mass.	113.2	56.6	138.4	27.4	335.7	45.9	0.0				45.9	381.6
Connecticut	880.3	7.8	0.0	34.9	923.0	7.5	0.0				7.5	930.6
Rhode Island	115.0	454.6	0.0	10.2	579.8	53.7	0.0				53.7	633.5
E NY/N NJ	556.7	19.6	46.9	1,585.9	2,209.1	19.6	0.0				19.6	2,228.7
NH/VT/ME	7.9	5.5	626.6	89.8	729.8	5.5	0.0				5.5	735.3
Subtotal	1,714.7	585.9	1,502.4	1,800.7	5,603.6	966.8	0.0	0.0	0.0	0.0	966.8	6,570.5
Plus: Visitor %		7%	5%	5%	5%		5%	5%				
Visitor #	129.1	30.8	79.1	94.8	333.7	50.9	0.0	0.0	0.0	0.0	50.9	384.6
TOTAL	1,843.8	616.7	1,581.5	1,895.4	5,937.4	1,017.7	0.0	0.0	0.0	0.0	1,017.7	6,955.1

¹ Also adjusted for competition from gaming facilities in other states, urban/rural, and per capita income factors.

(millions of 1996 dollars)

From:	To:	Massachusetts:						Suffolk/ W'land	Subtotal	Grand Total
		Conn.	Rhode Island	New Hampshire	Other States	Subtotal	New Bedford			
E. Mass.	\$5.4	\$5.4	\$89.8	\$6.8	\$107.4	\$108.5	\$0.0		\$108.5	\$215.9
W. Mass.	14.7	7.4	18.0	3.6	43.6	6.0	0.0		6.0	49.6
Connecticut	114.4	1.0	0.0	4.5	120.0	1.0	0.0		1.0	121.0
Rhode Island	15.0	59.1	0.0	1.3	75.4	7.0	0.0		7.0	82.4
E NY/NJ	72.4	2.5	6.1	206.2	287.2	2.5	0.0		2.5	289.7
NH/VT/ME	1.0	0.7	81.5	11.7	94.9	0.7	0.0		0.7	95.6
Subtotal	\$222.9	\$76.2	\$195.3	\$234.1	\$728.5	\$125.7	\$0.0	\$0.0	\$0.0	\$125.7
Plus (5%+):										
Visitor \$	\$16.8	\$4.0	\$10.3	\$12.3	\$43.4	\$6.6	\$0.0	\$0.0	\$0.0	\$50.0
TOTAL	\$239.7	\$80.2	\$205.6	\$246.4	\$771.9	\$132.3	\$0.0	\$0.0	\$0.0	\$132.3
Est. Spending Base										
	\$130.00	130.00	130.00	130.00					130.00	

(millions of 1996 dollars)

From:	To:	Other States:	Rhode Island	New Hampshire	Other States	Subtotal	Bedford	New Mass.	Western Mass.	Foxboro	Suffolk/W'land	Subtotal	Grand Total
Massachusetts:													
E. Mass.	\$19.2	\$19.2	\$317.6	\$21.5	\$377.4	\$383.9	\$0.0	\$0.0	\$0.0	\$0.0	\$383.9	\$761.4	
W. Mass.	52.1	26.1	63.7	11.3	153.1	21.1	0.0	0.0	0.0	0.0	21.1	174.2	
Connecticut	405.0	3.6	0.0	14.3	422.9	3.5	0.0	0.0	0.0	0.0	3.5	426.3	
Rhode Island	52.9	209.1	0.0	4.2	266.2	24.7	0.0	0.0	0.0	0.0	24.7	290.9	
E NY/N NJ	263.5	9.0	23.4	642.4	938.3	9.0	0.0	0.0	0.0	0.0	9.0	947.3	
NH/VT/ME	3.6	2.5	288.3	36.7	331.2	2.5	0.0	0.0	0.0	0.0	2.5	333.8	
Subtotal	\$796.2	\$269.5	\$693.0	\$730.3	\$2,489.1	\$444.7	\$0.0	\$0.0	\$0.0	\$0.0	\$444.7	\$2,933.8	
Plus (5%+):													
Visitor \$	\$47.0	\$14.2	\$36.5	\$38.4	\$136.0	\$23.4	\$0.0	\$0.0	\$0.0	\$0.0	\$23.4	\$159.5	
TOTAL	\$843.1	\$283.7	\$729.5	\$768.8	\$2,625.1	\$468.2	\$0.0	\$0.0	\$0.0	\$0.0	\$468.2	\$3,093.3	
Effective Spending Bases:													
Slots	\$330.00	330.00	280.00		330.00	330.00	264.00		264.00				
Tables	130.00	130.00	130.00	130.00	130.00	130.00	0.00	0.00	0.00	0.00			

Exhibit 7-2-1: Gaming Device Demand (and Slot Revenues) -- Scenario 2

(millions of 1996 dollars)

To:	Other States:	Rhode Island	New Hampshire	Other States	Subtotal	Massachusetts:	New Bedford	Western Raynham/Mass.	Foxboro	Suffolk/W'land	Subtotal	Grand Total
From:	Conn.											
E. Mass.	\$12.9	\$13.5	\$221.0	\$13.4	\$260.9	\$262.5	\$22.3	\$0.0	\$0.0	\$284.8	\$545.7	
W. Mass.	15.8	14.4	19.8	5.2	55.1	8.9	139.4	0.0	0.0	148.2	203.4	
Connecticut	248.9	1.6	0.0	7.4	257.9	1.0	64.4	0.0	0.0	65.4	323.3	
Rhode Island	36.0	150.0	0.0	2.6	188.6	16.4	3.6	0.0	0.0	20.0	208.6	
E NY/N NJ	177.3	5.9	9.3	422.0	614.5	5.0	59.3	0.0	0.0	64.3	678.8	
NH/VT/ME	2.4	1.4	203.8	24.4	232.0	1.4	4.9	0.0	0.0	6.3	238.3	
Subtotal	\$493.2	\$186.9	\$454.0	\$474.9	\$1,609.0	\$295.1	\$293.9	\$0.0	\$0.0	\$589.0	\$2,198.0	
Plus (5%+):												
Visitor \$	\$26.0	\$9.8	\$23.9	\$25.0	\$84.7	\$15.5	\$15.5	\$0.0	\$0.0	\$31.0	\$115.7	
TOTAL	\$519.2	\$196.7	\$477.9	\$499.9	\$1,693.7	\$310.6	\$309.3	\$0.0	\$0.0	\$620.0	\$2,313.7	
Effective Spndng												
Base	\$330.00	330.00	330.00	280.00		330.00	330.00			330.00	330.00	

Exhibit 7-2-2: Table-Game Demand (and Revenues) at Nearby Facilities -- Scenario 2

(millions of 1996 dollars)

From:	To:	Other States:						Massachusetts:						Grand Total
		Conn.	Rhode Island	New Hampshire	Other States	Subtotal	Bedford	New Mass.	Western Mass.	Foxboro	Suffolk/W'land	Subtotal		
E. Mass.	\$5.1	\$5.3	\$87.1	\$6.2	\$103.7	\$103.4	\$8.8				\$112.2	\$215.9		
W. Mass.	6.2	5.7	7.8	2.4	22.1	3.5	54.9				58.4	80.5		
Connecticut	98.0	0.6	0.0	3.4	102.1	0.6	25.1				25.8	127.9		
Rhode Island	14.2	59.1	0.0	1.2	74.5	6.4	1.4				7.9	82.4		
E NY/N NJ	68.8	2.3	3.4	197.3	271.9	2.0	23.6				25.5	297.4		
NH/VT/ME	1.0	0.5	80.3	11.3	93.1	0.6	1.9				2.5	95.6		
Subtotal	\$193.3	\$73.6	\$178.5	\$222.0	\$667.4	\$116.5	\$115.7	\$0.0	\$0.0	\$0.0	\$232.2	\$899.7		
Plus (5%+): Visitor \$	\$14.6	\$3.9	\$9.4	\$11.7	\$39.5	\$6.1	\$6.1	\$0.0	\$0.0	\$0.0	\$12.2	\$51.7		
TOTAL	\$207.9	\$77.5	\$187.9	\$233.6	\$706.9	\$122.7	\$121.8	\$0.0	\$0.0	\$0.0	\$244.4	\$951.4		
Est. Spending Base														
	\$130.00	130.00	130.00	130.00		130.00	130.00	0.00	0.00	0.00				

Exhibit 7-2-3: Total Table and Gaming Device Revenues -- Scenario 2

27-Jun-96

(millions of 1996 dollars)

From:	To:	Other States:				Massachusetts:				Subtotal	Grand Total
		Rhode Island	New Hampshire	Other States	Subtotal	New Bedford	Western Raynham/Foxboro	Suffolk/WIand			
E. Mass.	\$17.9	\$18.9	\$308.1	\$19.6	\$364.6	\$365.9	\$31.1	\$0.0	\$0.0	\$397.0	\$761.6
W. Mass.	22.0	20.1	27.6	7.6	77.2	12.3	194.2	0.0	0.0	206.6	283.8
Connecticut	346.9	2.3	0.0	10.8	360.0	1.6	89.6	0.0	0.0	91.2	451.2
Rhode Island	50.2	209.1	0.0	3.8	263.1	22.8	5.0	0.0	0.0	27.8	290.9
E NY/N NJ	246.1	8.2	12.8	619.3	886.4	7.0	82.8	0.0	0.0	89.8	976.2
NH/VT/ME	3.4	1.9	284.1	35.7	325.1	2.0	6.8	0.0	0.0	8.7	333.9
Subtotal	\$686.5	\$260.5	\$632.5	\$696.9	\$2,276.5	\$411.6	\$409.6	\$0.0	\$0.0	\$821.2	\$3,097.7
Plus (5%+): Visitor \$	\$40.5	\$13.7	\$33.3	\$36.7	\$124.2	\$21.7	\$21.6	\$0.0	\$0.0	\$43.2	\$167.4
TOTAL	\$727.1	\$274.2	\$665.8	\$733.6	\$2,400.7	\$433.3	\$431.1	\$0.0	\$0.0	\$864.4	\$3,265.1
Effective Spending Bases:											
Slots	\$330.00	330.00	280.00			330.00	330.00	264.00	264.00		
Tables	\$130.00	130.00	130.00	130.00		130.00	130.00	0.00	0.00		

Exhibit 7-3-1: Gaming Device Demand (and Slot Revenues) -- Scenario 3

(millions of 1996 dollars)

From:	To:	Massachusetts:						Grand Total	
		Conn.	Rhode Island	New Hampshire	Other States	Subtotal	New Bedford	Western Raynham/Foxboro	
Massachusetts:									
E. Mass.	\$12.3	\$13.5	\$142.3	\$12.5	\$180.7	\$226.5	\$0.0	\$179.9	\$204.8
W. Mass.	36.8	18.1	43.8	6.8	105.4	14.4	0.0	7.1	0.6
Connecticut	290.5	2.6	0.0	9.8	302.9	2.5	0.0	0.0	2.5
Rhode Island	35.6	147.6	0.0	2.9	186.0	14.0	0.0	8.5	0.0
E NY/N NJ	191.1	6.5	0.0	436.2	633.8	6.5	0.0	0.0	0.0
NH/VT/ME	2.6	1.8	205.3	25.0	234.7	1.8	0.0	0.0	0.0
Subtotal	\$568.9	\$190.1	\$391.4	\$493.1	\$1,643.5	\$265.7	\$0.0	\$195.5	\$205.4
Plus (5%+):									
Visitor \$	\$29.9	\$10.0	\$20.6	\$26.0	\$86.5	\$14.0	\$0.0	\$6.0	\$6.4
TOTAL	\$598.9	\$200.1	\$412.0	\$519.0	\$1,730.0	\$279.7	\$0.0	\$201.6	\$211.8
Est. Spending Base	\$330.00	330.00	330.00	280.00	330.00	330.00	330.00	330.00	330.00

(millions of 1996 dollars)

	To:	Other States:	Massachusetts:						Grand Total
	Conn.	Rhode Island	New Hampshire	Other States	Subtotal	New Bedford	Western Raynham/Mass.	Suffolk/W'land	Subtotal
From:									
E. Mass.	\$18.7	\$13.5	\$142.3	\$12.5	\$187.1	\$249.3	\$0.0	\$148.2	\$534.3
W. Mass.	37.9	18.1	43.8	6.8	106.5	14.4	0.0	5.4	20.3
Connecticut	290.5	2.6	0.0	9.8	302.9	2.5	0.0	0.0	2.5
Rhode Island	36.0	147.6	0.0	2.9	186.5	14.0	0.0	6.5	0.0
E NY/N NJ	191.1	6.5	0.0	436.2	633.8	6.5	0.0	0.0	6.5
NH/VT/ME	2.6	1.8	205.3	25.0	234.7	1.8	0.0	0.0	1.8
Subtotal	\$576.9	\$190.1	\$391.4	\$493.1	\$1,651.4	\$288.5	\$0.0	\$148.7	\$585.9
Plus (5%+): Visitor \$									
TOTAL	\$607.2	\$200.1	\$412.0	\$519.0	\$1,738.3	\$303.7	\$0.0	\$153.3	\$610.3
Effective Spndng									
Base	\$330.00	330.00	280.00				330.00	250.99	238.90

(millions of 1996 dollars)

From:	To:	Massachusetts:						Suffolk/ W'land	Subtotal	Grand Total	
		Conn.	Other States:	Rhode Island	New Hampshire	Other States	Subtotal	New Bedford	Mass.	Foxboro	
E. Mass.	\$5.4	\$5.4	\$89.8	\$6.8	\$107.4	\$108.5	\$0.0			\$108.5	\$215.9
W. Mass.	14.7	7.4	18.0	3.6	43.6	6.0	0.0			6.0	49.6
Connecticut	114.4	1.0	0.0	4.5	120.0	1.0	0.0			1.0	121.0
Rhode Island	15.0	59.1	0.0	1.3	75.4	7.0	0.0			7.0	82.4
E NY/N NJ	72.4	2.5	6.1	206.2	287.2	2.5	0.0			2.5	289.7
NH/VT/ME	1.0	0.7	81.5	11.7	94.9	0.7	0.0			0.7	95.6
Subtotal	\$222.9	\$76.2	\$195.3	\$234.1	\$728.5	\$125.7	\$0.0	\$0.0	\$0.0	\$125.7	\$854.2
Plus (5%+):											
Visitor \$	\$16.8	\$4.0	\$10.3	\$12.3	\$43.4	\$6.6	\$0.0	\$0.0	\$0.0	\$6.6	\$50.0
TOTAL	\$239.7	\$80.2	\$205.6	\$246.4	\$771.9	\$132.3	\$0.0	\$0.0	\$0.0	\$132.3	\$904.2
Est. Spending											
Base	\$130.00	130.00	130.00	130.00							130.00

28-Jun-96

Exhibit 7-3-4: Total Table and Gaming Device Revenues -- Scenario 3

(millions of 1996 dollars)

From:	To:	Other States:					Massachusetts:					Grand Total
		Conn.	Rhode Island	New Hampshire	Other States	Subtotal	Bedford	Western Mass.	Raynham/Foxboro	Suffolk/WIland	Subtotal	
E. Mass.	\$24.1	\$19.0	\$232.1	\$19.3	\$294.5	\$357.8	\$0.0	\$136.8	\$148.2	\$642.8	\$937.3	
W. Mass.	52.6	25.5	61.8	10.3	150.2	20.4	0.0	5.4	0.5	26.3	176.5	
Connecticut	405.0	3.6	0.0	14.3	422.9	3.5	0.0	0.0	0.0	3.5	426.3	
Rhode Island	51.0	206.7	0.0	4.2	261.8	21.0	0.0	6.5	0.0	27.5	289.3	
E NY/N NJ	263.5	9.0	6.1	642.4	921.0	9.0	0.0	0.0	0.0	9.0	930.0	
NH/VT/ME	3.6	2.5	286.7	36.7	329.6	2.5	0.0	0.0	0.0	2.5	332.1	
Subtotal	\$799.8	\$266.3	\$586.7	\$727.2	\$2,379.9	\$414.2	\$0.0	\$148.7	\$148.7	\$711.6	\$3,091.5	
Plus (5%+): Visitor \$	\$47.1	\$14.0	\$30.9	\$38.3	\$130.3	\$21.8	\$0.0	\$4.6	\$4.6	\$31.0	\$161.3	
TOTAL	\$846.9	\$280.3	\$617.6	\$765.4	\$2,510.2	\$436.0	\$0.0	\$153.3	\$153.3	\$742.6	\$3,252.8	
Effective Spending Bases:												
Slots	\$330.00	330.00	280.00				330.00	0.00	250.99	238.90		
Tables	\$130.00	130.00	130.00	130.00			130.00	0.00	0.00	0.00		

(millions of 1996 dollars)

From:	To:	Other States:						Massachusetts:						Subtotal	Grand Total
		Conn.	Rhode Island	New Hampshire	Other States	Subtotal	New Bedford	Western Mass.	Raynham/Foxboro	Suffolk/W'land					
E. Mass.	\$12.3	\$13.5	\$140.0	\$12.4	\$178.3	\$218.0	\$22.3	\$175.7	\$197.6	\$613.6				\$791.8	
W. Mass.	15.1	13.7	19.0	5.3	53.1	7.9	138.8	5.8	0.6	153.1				206.2	
Connecticut	248.9	1.6	0.0	7.4	257.9	1.0	64.4	0.0	0.0	65.4				323.3	
Rhode Island	33.9	146.2	0.0	2.6	182.8	14.3	3.3	8.2	0.0	25.8				208.6	
E NY/N NJ	177.3	5.9	9.3	422.0	614.5	5.0	59.3	0.0	0.0	64.3				678.8	
NH/VT/ME	2.4	1.4	202.2	24.3	230.4	1.4	4.9	0.0	0.0	6.3				236.7	
Subtotal	\$489.9	\$182.4	\$370.5	\$474.1	\$1,516.9	\$247.6	\$292.9	\$189.7	\$198.2	\$928.5				\$2,445.4	
Plus (5%+):															
Visitor \$	\$25.8	\$9.6	\$19.5	\$25.0	\$79.8	\$13.0	\$15.4	\$5.9	\$6.1	\$40.4				\$120.3	
TOTAL	\$515.7	\$192.0	\$390.0	\$499.0	\$1,596.7	\$260.7	\$308.3	\$195.6	\$204.4	\$969.0				\$2,565.7	
Est. Spending Base	\$330.00	330.00	280.00			330.00	330.00	330.00	330.00	330.00					

Exhibit 7-4-2: Gaming Device (Slot) Revenues, after Constraints -- Scenario 4

(millions of 1996 dollars)

To:	Other States:	Rhode Island	New Hampshire	Other States	Subtotal	New Bedford	Western Raynham/Mass.	Foxboro	Suffolk/WIand	Subtotal	Grand Total
From:											
E. Mass.	\$17.8	\$13.5	\$140.0	\$12.4	\$238.1	\$22.3	\$137.7	\$148.2	\$546.3	\$730.0	
W. Mass.	15.5	13.7	19.0	5.3	53.5	8.3	138.8	4.6	0.5	152.1	205.7
Connecticut	248.9	1.6	0.0	7.4	257.9	1.0	64.4	0.0	0.0	65.4	323.3
Rhode Island	34.3	146.2	0.0	2.6	183.1	14.6	3.3	6.4	0.0	24.4	207.5
E NY/N NJ	177.3	5.9	9.3	422.0	614.5	5.0	59.3	0.0	0.0	64.3	678.8
NH/VT/ME	2.4	1.4	202.2	24.3	230.4	1.4	4.9	0.0	0.0	6.3	236.7
Subtotal	\$496.2	\$182.4	\$370.5	\$474.1	\$1,523.1	\$268.5	\$292.9	\$148.7	\$148.7	\$858.8	\$2,381.9
Plus (5%+):											
Visitor \$	\$26.1	\$9.6	\$19.5	\$25.0	\$80.2	\$14.1	\$15.4	\$4.6	\$4.6	\$38.7	\$118.9
TOTAL	\$522.3	\$192.0	\$390.0	\$499.0	\$1,603.3	\$282.6	\$308.3	\$153.3	\$153.3	\$897.5	\$2,500.8
Effective Spndng											
Base	\$330.00	330.00	280.00		330.00	330.00	258.61	247.52			

(millions of 1996 dollars)

From:	Massachusetts:						Suffolk/ W'land	Subtotal	Grand Total
	Conn.	Other States:	Rhode Island	New Hampshire	Other States	Subtotal			
E. Mass.	\$5.1	\$5.3	\$87.1	\$6.2	\$103.7	\$103.4	\$8.8	\$112.2	\$215.9
W. Mass.	6.2	5.7	7.8	2.4	22.1	3.5	54.9		58.4 80.5
Connecticut	98.0	0.6	0.0	3.4	102.1	0.6	25.1		25.8 127.9
Rhode Island	14.2	59.1	0.0	1.2	74.5	6.4	1.4		7.9 82.4
E NY/N NJ	68.8	2.3	3.4	197.3	271.9	2.0	23.6		25.5 297.4
NH/VT/ME	1.0	0.5	80.3	11.3	93.1	0.6	1.9		2.5 95.6
Subtotal	\$193.3	\$73.6	\$178.5	\$222.0	\$667.4	\$116.5	\$115.7	\$0.0	\$232.2 \$899.7
Plus (5%+): Visitor \$	\$14.6	\$3.9	\$9.4	\$11.7	\$39.5	\$6.1	\$6.1	\$0.0	\$12.2 \$51.7
TOTAL	\$207.9	\$77.5	\$187.9	\$233.6	\$706.9	\$122.7	\$121.8	\$0.0	\$244.4 \$951.4
Est. Spending Base									
	\$130.00	130.00	130.00	130.00					

Exhibit 7-4-4: Total Table and Gaming Device Revenues -- Scenario 4

(millions of 1996 dollars)

To:	Other States:	Rhode Island	New Hampshire	Other States	Subtotal	Western Raynham/Mass.	Foxboro	Suffolk/W'land	Subtotal	Grand Total
From:	Conn.					Bedford				
Massachusetts:										
E. Mass.	\$22.9	\$18.9	\$227.0	\$18.7	\$287.5	\$341.5	\$31.1	\$137.7	\$148.2	\$658.5
W. Mass.	21.7	19.4	26.8	7.7	75.6	11.8	193.7	4.6	0.5	210.5
Connecticut	346.9	2.3	0.0	10.8	360.0	1.6	89.6	0.0	0.0	91.2
Rhode Island	48.5	205.3	0.0	3.8	257.6	21.1	4.7	6.4	0.0	32.3
E NY/N NJ	246.1	8.2	12.8	619.3	886.4	7.0	82.8	0.0	0.0	89.8
NH/VT/ME	3.4	1.9	282.5	35.7	323.5	2.0	6.8	0.0	0.0	8.7
Subtotal	\$689.5	\$256.0	\$549.0	\$696.0	\$2,190.6	\$385.0	\$408.6	\$148.7	\$148.7	\$1,091.0
Plus (5%+): Visitor \$	\$40.7	\$13.5	\$28.9	\$36.6	\$119.7	\$20.3	\$21.5	\$4.6	\$4.6	\$51.0
TOTAL	\$730.2	\$269.5	\$577.9	\$732.6	\$2,310.2	\$405.3	\$430.1	\$153.3	\$153.3	\$1,142.0
Effective Spending Bases:										
Slots	\$330.00	330.00	280.00			330.00	330.00	258.61	247.52	
Tables	\$130.00	130.00	130.00	130.00		130.00	130.00	0.00	0.00	

(millions of 1996 dollars)

From:	To:	Massachusetts:						Subtotal	Grand Total		
		Conn.	Other States:	Rhode Island	New Hampshire	Other States	New Bedford	Western Raynham/Foxboro	Suffolk/W'land		
E. Mass.	\$139.2	\$10.7	\$74.1	\$21.4	\$245.3	\$0.0	\$0.0	\$326.1	\$216.0	\$542.1	\$787.4
W. Mass.	40.7	3.6	46.5	7.6	98.3	0.0	0.0	19.8	9.4	29.2	127.5
Connecticut	292.9	0.2	0.0	11.9	305.0	0.0	0.0	0.0	0.0	0.0	305.0
Rhode Island	49.9	137.4	0.0	6.9	194.2	0.0	0.0	13.6	0.0	13.6	207.8
E NY/N NJ	201.0	0.0	12.9	442.5	656.4	0.0	0.0	0.0	0.0	0.0	656.4
NH/VT/ME	9.9	0.0	193.5	31.9	235.3	0.0	0.0	0.0	0.0	0.0	235.3
Subtotal	\$733.5	\$151.9	\$326.9	\$522.3	\$1,734.6	\$0.0	\$0.0	\$359.5	\$225.4	\$584.8	\$2,319.4
Plus (5%+):											
Visitor \$	\$38.6	\$8.0	\$17.2	\$27.5	\$91.3	\$0.0	\$0.0	\$11.1	\$7.0	\$18.1	\$109.4
TOTAL	\$772.2	\$159.8	\$344.1	\$549.8	\$1,825.9	\$0.0	\$0.0	\$370.6	\$232.4	\$602.9	\$2,428.8
Est. Spending Base	\$330.00	330.00	330.00	280.00	330.00	330.00	330.00	330.00	330.00	330.00	330.00

(millions of 1996 dollars)

From:	To:	Massachusetts:						Suffolk/ W'land	Subtotal	Grand Total
		Conn.	Rhode Island	New Hampshire	Other States	Subtotal	New Bedford			
E. Mass.	\$201.3	\$10.7	\$101.6	\$21.4	\$335.1	\$0.0	\$0.0	\$134.9	\$142.5	\$277.4
W. Mass.	49.4	3.6	46.5	7.6	107.1	0.0	0.0	8.2	6.2	14.4
Connecticut	292.9	0.2	0.0	11.9	305.0	0.0	0.0	0.0	0.0	305.0
Rhode Island	51.9	137.4	0.0	6.9	196.3	0.0	0.0	5.6	0.0	5.6
E NY/N NJ	201.0	0.0	12.9	442.5	656.4	0.0	0.0	0.0	0.0	656.4
NH/VT/ME	9.9	0.0	193.5	31.9	235.3	0.0	0.0	0.0	0.0	235.3
Subtotal	\$806.5	\$151.9	\$354.5	\$522.3	\$1,835.2	\$0.0	\$0.0	\$148.7	\$148.7	\$297.4
Plus (5%+): Visitor \$	\$42.4	\$8.0	\$18.7	\$27.5	\$96.6	\$0.0	\$0.0	\$4.6	\$4.6	\$9.2
TOTAL	\$849.0	\$159.8	\$373.2	\$549.8	\$1,931.7	\$0.0	\$0.0	\$153.3	\$153.3	\$306.6
Effective Spndng Base	\$330.00	330.00	280.00			0.00	0.00	136.51	217.72	

(millions of 1996 dollars)

Exhibit 7-5-4: Total Table and Gaming Device Revenues-- Scenario 5

(millions of 1996 dollars)

From:	To:	Other States:						Massachusetts:						Grand Total
		Conn.	Rhode Island	New Hampshire	Other States	Subtotal	New Bedford	Western Mass.	Raynham/Foxboro	Suffolk/W'land	Subtotal			
E. Mass.	\$292.7	\$10.7	\$101.6	\$32.8	\$437.8	\$0.0	\$0.0	\$134.9	\$142.5	\$277.4		\$715.2		
W. Mass.	80.9	3.6	46.5	12.2	143.2	0.0	0.0	8.2	6.2	14.4		157.6		
Connecticut	395.7	0.2	0.0	19.5	415.3	0.0	0.0	0.0	0.0	0.0		415.3		
Rhode Island	84.1	137.4	0.0	9.4	230.8	0.0	0.0	5.6	0.0	5.6		236.5		
E NY/N NJ	257.4	0.0	12.9	659.4	929.7	0.0	0.0	0.0	0.0	0.0		929.7		
NH/VT/ME	34.7	0.0	193.5	44.5	272.6	0.0	0.0	0.0	0.0	0.0		272.6		
Subtotal	\$1,145.5	\$151.9	\$354.5	\$777.7	\$2,429.5	\$0.0	\$0.0	\$148.7	\$148.7	\$297.4		\$2,726.9		
Plus (5%+):														
Visitor \$	\$68.0	\$8.0	\$18.7	\$40.9	\$135.5	\$0.0	\$0.0	\$4.6	\$4.6	\$9.2		\$144.7		
TOTAL	\$1,213.4	\$159.8	\$373.2	\$818.6	\$2,565.0	\$0.0	\$0.0	\$153.3	\$153.3	\$306.6		\$2,871.6		
Effective Spending Bases:														
Slots	\$330.00	330.00	330.00	280.00				0.00	0.00	136.51		217.72		
Tables	\$130.00	0.00	0.00	130.00				0.00	0.00	0.00		0.00		

Chapter 8

Impacts on the Massachusetts Lottery

8 Impacts on the Massachusetts Lottery and Charitable Games

In the preceding chapters, we have presented:

1. A framework for our strategic analysis, including key concepts regarding the evolution of gambling markets and product portfolio analysis;
2. An evaluation of the current performance and recent trends in Lottery sales, by product: only the Lottery's instant games and Keno (its newest product) are showing any vigor;
3. A comparison of the performance of the Massachusetts Lottery with other state lotteries: Massachusetts ranks first in terms of per capita sales, revenues, and government receipts, due primarily to the strength of its instant games, which sell far better in Massachusetts than in any other state;
4. An analysis of the relative levels and trends in sales (handle) and revenues net of prizes (win) of state lotteries and casinos in those states and Canadian provinces which have both: while there is great variation across different jurisdictions, there is a trend toward lower lottery growth (i.e., adverse impacts) following the introduction of casinos;
5. A similar analysis of sales and revenues in lottery states and provinces which have electronic gaming devices (be they VLTs or slot machines) instead of or in addition to full casinos: again, while there is variation across lottery jurisdictions, there is a trend toward lower lottery growth following the introduction of electronic gaming devices;
6. A comparison of per capita lottery sales for states which have (a) lotteries only, or (b) lotteries and casinos, or (c) lotteries and gaming devices, or (d) lotteries and casinos and devices : there is a clear trend toward *lower* per capita lottery sales as additional forms of such gambling competition are added to the marketplace.
7. Projections for the performance of casinos and race track gaming devices in Massachusetts under five alternative scenarios.

Similar analyses have been conducted for the Charitable Gaming activities regulated by the MSLC. Those analyses are described in our companion report, *Analysis of Charitable Gaming in Massachusetts*. This document presents an evaluation of the current performance and recent trends in charitable wagering: three of the four charitable fund-raising activities are experiencing declining sales. The document also compares the performance of the Charitable Gaming Division's performance with 35 other states' charitable gaming: although Massachusetts per capita charitable wagering was about equal to the national average, it was one of only four states that had across-the-board decreases in all forms of charitable gambling.

Our analyses indicate that casinos and electronic gaming devices are indeed substantial competitors for lottery games and charitable games in the marketplace for gambling and entertainment. When casinos have been introduced to states with relatively mature state lottery systems, there appear to be adverse impacts on annual growth in lottery sales on the order of four to five percent *per year*. Since only New Jersey has had both casinos and a lottery for more than a few years (all the other states with both have introduced one or the other only since the late 1980s), it is unclear how long these impacts ordinarily accumulate. (New Jersey's State Lottery is still functioning reasonably well in a market with nearby casinos, but not quite as well as those in the neighboring states slightly more distant from Atlantic City.)

We believe that the best preliminary approximation of the impacts of major casino gaming competition on mature state lotteries is provided by the raw difference in the levels of per capita sales between those state lotteries which have nearby casinos versus those which are (relatively) free from them: about 17 percent. (Because the samples of gaming-device-only and device-plus-casino states are so small, we are reluctant to extrapolate from their even more marked apparent impacts.) This figure would represent three to four years of accumulating 4 to 5 percent annual impacts, which is (so far) consistent with the broad range of experience in the states which have recently introduced casinos.

The 4 to 5 percent annual impact is substantiated by our "small trend" analysis, which consistently indicates this degree of annual impact, regardless of the relative maturity of casinos and lotteries in the different states examined. In our opinion, it is also consistent with the results of our telephone survey of Massachusetts residents. While a limited number of respondents indicated that they planned to reduce their spending on the lottery and charitable games if and when casinos came to town, their number (three to six percent of current players, depending upon scenario) was substantially greater than we found in our pre-Foxwoods survey in Connecticut (1.6 percent of lottery players there thought the new casino would affect their lottery play). In our experience with such surveys, respondents typically tend to *overestimate* the extent to which

they will do something new, but they *underestimate*, often by a large margin, the effects such new activities will have on their current ones.

We therefore believe that a cumulative impact of about 17 percent reduction in sales (and thus, revenues) would be a reasonable expectation for the Massachusetts State Lottery if the casinos in (and near) Massachusetts were attracting residents' spending at about the same rate as in other states. In those states, however, and in Massachusetts under the different scenarios we have examined, there is a wide range of rates of spending on casinos -- due not so much to differences among them with respect to how attractive the casinos may be in the abstract, but due to the different configurations of casino games allowed and the locations in which they are placed. Average casino *distance* (or more accurately, *accessibility*) is the most critical factor for consumers, and it varies widely. To estimate the impacts of casinos on the Massachusetts Lottery, we have quantified these effects by comparing the projected levels of casino spending in the Commonwealth, on a per capita basis, to those in the states where casinos have already come into close contact with lotteries and charitable games. Our estimates for the comparison states are presented in Exhibit 8-1; on average, the adult residents of these states spent about \$228 each on casinos in 1995. (Note how the states with widespread devices outside casinos [Louisiana, Montana, and South Dakota] exhibited very high rates of spending, due primarily, in our opinion, to the ubiquitous availability of those devices to the general public.)

We estimate that if Massachusetts residents were to spend dollars at casinos at that same average rate (\$228 per adult), Massachusetts Lottery sales would be 17 percent less than the level they would have reached *in the total absence of casinos*. It is important to observe, however, that casinos are already a major factor in Massachusetts, due primarily to the opening of Foxwoods in 1992: substantial Massachusetts dollars are already being spent on gambling there. We estimate, based upon the relative levels of consumer spending on casinos today versus those of our benchmark \$228 from other states, that the Commonwealth is already about "40 percent of the way there" with regard to casino impacts; that is, Lottery sales are *already* about 6.7 percent lower than they would have been without *any* casinos nearby. Our estimation of this figure is summarized in Exhibit 8-2-0. (We have developed these estimates on a county-by-county basis, again, because issues of accessibility and convenience are critical to consumer behavior. In addition, there are differences among the counties of Massachusetts with regard to current Lottery sales. An impact of X percent in Suffolk County, with total Lottery sales of \$571 million, is more critical for the State as a whole than the same percentage impact on the Cape and the Islands.) Current casino spending is estimated to range from about \$72 per adult in Essex County to \$93 per adult in Bristol and Plymouth counties (combined for this analysis); on a

statewide basis, it averages \$84.27 per person, 37 percent of the average level of casino spending in the comparison states. We have estimated the impacts on Lottery sales, by county, in proportion to this spending. In total, we estimate that lottery sales have already been reduced by \$202.9 million, or 6.7 percent.

To properly assess the impacts of the *new* casinos in the scenarios we have examined, we have therefore measured them versus this “Status Quo” level, rather than against the now long-gone “pre-casino” level. The development of our impact estimates for the five scenarios is presented in Exhibits 8-2-1 through 8-2-5. Table 8-3 summarizes these results.

**Table 8-3
(Cumulative) Impacts on Massachusetts Lottery Sales and Revenue**

Scenario	Impact
1. New Bedford casino only	-9.9%
2. New Bedford + Western Mass. casinos	-11.7%
3. New Bedford casino+track devices	-13.1%
4. Both casinos + track devices	-15.0%
5. Track devices only (no full casinos)	-9.1%

These impacts indicate “cannibalization rates” of about 16 percent; that is, about one-sixth of the casino (and gaming device) spending under each scenario represents spending that would have otherwise gone to MSLC games. This percentage appears reasonable given the experience in other states, and given our Massachusetts telephone survey results. We would observe, however, that because the State Lottery’s per capita sales still rank first in the nation today (despite the Foxwoods casino impacts that have already occurred), there is likely to be less “headroom” for new gambling activities in Massachusetts than elsewhere. We believe that there is thus a very real risk of even greater cannibalization in Massachusetts, and more severe adverse impacts on lottery sales than in other jurisdictions.

Our efforts have focused on the impacts of casinos on lottery sales; there will likely also be adverse impacts on charitable games. Our assessment of the limited data available is that charity games are likely to suffer somewhat *more* severe impacts than lottery games, but the data do not permit precise quantification of these impacts. We would expect these more severe impacts to vary by scenario in similar proportion to the impacts estimated for the Lottery.

Our recommendations in the Charity report may ameliorate the severity of impacts. Without the adoption of such recommendations, casinos and electronic gaming devices will exacerbate the continuing decline in charitable wagering receipts.

Exhibit 8-1: Average Casino Spending in Other Lottery States**(1995 dollars per adult)**

28-Jun-96

	Casino Revenues (\$ million)	% from Local Residents	Adult Population	Annual Spending Per Adult 1
--	---------------------------------	------------------------	------------------	-----------------------------

States with casinos only:

Connecticut	\$926.8	28.9%	2,378,038	\$112.63
Colorado	394.3	88.0%	2,584,165	\$134.27
Illinois	1,178.3	74.0%	8,214,264	\$106.15
Iowa	686.5	50.4%	1,972,667	\$175.40
Missouri	466.5	80.0%	3,702,497	\$100.80
New Jersey	3,747.8	30.0%	5,746,751	\$195.65

States with "outside" devices as well:

Louisiana	2,137.1	70.0%	2,855,759	\$523.84
Montana	212.2	87.0%	591,891	\$311.91
Rhode Island	146.4	95.5%	715,719	\$195.34
South Dakota	242.6	85.0%	485,963	\$424.33

Average (All States):	\$228.03
-----------------------	----------

Note: Casino revenues include GSG estimates for Indian casinos. Rhode Island "casino" revenues include video devices at its pari-mutuel facilities plus an estimated \$75 million in spending at Foxwoods.

Exhibit 8-2-0: Current-Day Casino Impact Estimates ("Status Quo")

(millions of 1995 dollars, except when "per person")

To:	Current Lottery Sales: \$ Per Adult	Spending (approx.) \$ Per Adult	Total	Casino & Device Spending: \$ Per Adult	Baseline	Casino Impacts on Lottery Sales: Percent	\$ Total
Counties:							
Cape & Islands	\$95.5	\$578.8	\$180.00	\$12.5	\$75.45	33%	-\$6.1
Bristol+Plymouth	\$434.5	\$642.9	\$199.94	\$62.8	\$92.97	41%	-7.3% -\$34.3
Norfolk	\$267.3	\$564.4	\$175.53	\$41.2	\$87.07	38%	-6.9% -\$19.7
Suffolk	\$400.7	\$867.5	\$269.79	\$37.6	\$81.33	36%	-6.4% -\$27.5
Middlesex	\$571.5	\$548.4	\$170.56	\$83.3	\$79.94	35%	-6.3% -\$38.6
Essex	\$311.8	\$636.3	\$197.91	\$35.3	\$71.96	32%	-5.7% -\$18.9
Subtotal E.	\$2,081.3	\$629.1	\$195.65	\$272.7	\$82.41	36%	-6.5% -\$145.1
W. Mass.	\$642.4	\$600.3	\$186.69	\$96.3	\$90.01	39%	-7.1% -\$49.0
Total Counties	\$2,723.7	\$622.0	\$193.46	\$369.0	\$84.27	37%	-6.7% -\$194.1
Other	\$123.7						-6.7% -\$8.8
Total Mass.	\$2,847.5						-6.7% -\$202.9

Note: These "Status Quo" impacts are calculated from the
(higher) levels which would have been achieved in the
absence of existing casinos.

28-Jun-96

Exhibit 8-2-1: Projected Casino Impacts on Lottery Sales -- Scenario 1

(millions of 1996 dollars, except when "per person")

To:	Current Lottery Sales:		Casino & Device Spending:			Impacts on Lottery Sales:		
	Total	\$ Per Adult	Spending (approx.)	\$ Per Adult	%	Raw	Net	\$ Total
Counties:			Total	Adult	Baseline	Percent	Percent	
Cape & Islands	\$95.5	\$578.8	\$180.00	\$29.2	\$176.75	78%	-13.5%	-7.9%
Bristol+Plymouth	\$434.5	\$642.9	\$199.94	\$175.2	\$259.13	114%	-19.1%	-12.7%
Norfolk	\$267.3	\$564.4	\$175.53	\$93.0	\$196.47	86%	-14.8%	-8.6%
Suffolk	\$400.7	\$867.5	\$269.79	\$86.4	\$187.11	82%	-14.2%	-8.3%
Middlesex	\$571.5	\$548.4	\$170.56	\$236.9	\$227.36	100%	-17.0%	-11.3%
Essex	\$311.8	\$636.3	\$197.91	\$140.6	\$287.03	126%	-20.9%	-16.1%
Subtotal E.	\$2,081.3	\$629.1	\$195.65	\$761.4	\$230.12	101%	-11.2%	-\$233.9
W. Mass.	\$642.4	\$600.3	\$186.69	\$174.2	\$162.75	71%	-12.5%	-5.8%
Total Counties	\$2,723.7	\$622.0	\$193.46	\$935.5	\$213.65	94%	-9.9%	-\$271.0
Other	\$123.7						-9.9%	-\$12.3
Total Mass.	\$2,847.5						-9.9%	-\$283.3

Note: "Net" impacts are net of the impacts of existing casinos
on Lottery sales (from Exhibit 8-0).

(millions of 1996 dollars, except when "per person")

To: Counties:	Current Lottery Sales:			Casino & Device Spending:			Impacts on Lottery Sales:		
	Total	\$ Per Adult	\$ Per Adult	Total	\$ Per	%	Raw	Net	
					Adult	Baseline	Percent	Percent	\$ Total
Cape & Islands	\$95.5	\$578.8	\$180.00	\$29.2	\$176.96	78%	-13.5%	-8.0%	-\$7.6
Bristol+Plymouth	\$434.5	\$642.9	\$199.94	\$175.2	\$259.13	114%	-19.1%	-12.7%	-\$55.2
Norfolk	\$267.3	\$564.4	\$175.53	\$93.1	\$196.68	86%	-14.8%	-8.6%	-\$22.9
Suffolk	\$400.7	\$867.5	\$269.79	\$86.5	\$187.31	82%	-14.2%	-8.3%	-\$33.2
Middlesex	\$571.5	\$548.4	\$170.56	\$236.9	\$227.36	100%	-17.0%	-11.3%	-\$64.9
Essex	\$311.8	\$636.3	\$197.91	\$140.6	\$287.03	126%	-20.9%	-16.1%	-\$50.3
Subtotal E.	\$2,081.3	\$629.1	\$195.65	\$761.6	\$230.19	101%	-11.2%	-8.0%	-\$234.0
W. Mass.	\$642.4	\$600.3	\$186.69	\$283.8	\$265.22	116%	-19.5%	-13.3%	-\$85.7
Total Counties	\$2,723.7	\$622.0	\$193.46	\$1,045.4	\$238.75	105%	-11.7%	-8.7%	-\$319.7
Other	\$123.7								-\$14.5
Total Mass.	\$2,847.5								-\$334.3

Note: "Net" impacts are net of the impacts of existing casinos
on Lottery sales (from Exhibit 8-0).

(millions of 1996 dollars, except when "per person")

To:	Current Lottery Sales:		Casino & Device Spending:			Impacts on Lottery Sales:		
	\$ Per Adult	\$ Per Adult	Total	\$ Per Adult	% Baseline	Raw	Net	\$ Total
Counties:								
Cape & Islands	\$95.5	\$578.8	\$180.00	\$29.2	\$176.93	78%	-13.5%	-8.0%
Bristol+Plymouth	\$434.5	\$642.9	\$199.94	\$205.3	\$303.69	133%	-22.0%	-15.8%
Norfolk	\$267.3	\$564.4	\$175.53	\$132.0	\$278.64	122%	-20.4%	-14.5%
Suffolk	\$400.7	\$867.5	\$269.79	\$151.1	\$327.21	144%	-23.5%	-18.2%
Middlesex	\$571.5	\$548.4	\$170.56	\$287.9	\$276.30	121%	-20.2%	-14.8%
Essex	\$311.8	\$636.3	\$197.91	\$132.0	\$269.34	118%	-19.8%	-14.9%
Subtotal E.	\$2,081.3	\$629.1	\$195.65	\$937.3	\$283.30	124%	-15.3%	-\$319.2
W. Mass.	\$642.4	\$600.3	\$186.69	\$176.5	\$164.91	72%	-12.6%	-5.9%
Total Counties	\$2,723.7	\$622.0	\$193.46	\$1,113.8	\$254.36	112%	-13.1%	-\$357.3
Other	\$123.7						-13.1%	-\$16.2
Total Mass.	\$2,847.5						-13.1%	-\$373.6

Note: "Net" impacts are net of the impacts of existing casinos
on Lottery sales (from Exhibit 8-0).

Exhibit 8-2-4: Projected Casino Impacts on Lottery Sales -- Scenario 4

(millions of 1996 dollars, except when "per person")

To:	Current Lottery Sales:			Casino & Device Spending:			Impacts on Lottery Sales:				
Counties:	Total	\$ Per Adult	\$ Per Adult	Total	Adult	Baseline	\$ Per	%	Raw Percent	Net Percent	\$ Total
Cape & Islands	\$95.5	\$578.8	\$180.00	\$29.2	\$176.96	78%	-13.5%	-8.0%	-8.0%	-\$7.6	
Bristol+Plymouth	\$434.5	\$642.9	\$199.94	\$205.7	\$304.28	133%	-22.0%	-15.9%	-15.9%	-\$68.9	
Norfolk	\$267.3	\$564.4	\$175.53	\$133.6	\$282.05	124%	-20.6%	-14.7%	-14.7%	-\$39.4	
Suffolk	\$400.7	\$867.5	\$269.79	\$153.6	\$332.46	146%	-23.8%	-18.6%	-18.6%	-\$74.3	
Middlesex	\$571.5	\$548.4	\$170.56	\$291.3	\$279.50	123%	-20.4%	-15.0%	-15.0%	-\$86.0	
Essex	\$311.8	\$636.3	\$197.91	\$132.8	\$271.01	119%	-19.9%	-15.0%	-15.0%	-\$46.8	
Subtotal E.	\$2,081.3	\$629.1	\$195.65	\$945.9	\$285.89	125%	-15.5%	-15.5%	-15.5%	-\$323.0	
W. Mass.	\$642.4	\$600.3	\$186.69	\$286.1	\$267.38	117%	-19.6%	-13.5%	-13.5%	-\$86.7	
Total Counties	\$2,723.7	\$622.0	\$193.46	\$1,232.0	\$281.37	123%	-15.0%	-15.0%	-15.0%	-\$409.7	
Other	\$123.7									-15.0%	-\$18.6
Total Mass.	\$2,847.5									-15.0%	-\$428.3

Note: "Net" impacts are net of the impacts of existing casinos
on Lottery sales (from Exhibit 8-0).

Exhibit 8-2-5: Projected Device Impacts on Lottery Sales-- Scenario 5

(millions of 1996 dollars, except when "per person")

To:	Current Lottery Sales: \$ Per Adult			Spending (approx.) \$ Per Adult			Casino & Device Spending: \$ Per Adult			Impacts on Lottery Sales: Raw Percent			Impacts on Lottery Sales: Net Percent			\$ Total		
Counties:	Total	Total	Total	Total	Total	Total	Baseline	%	Total	Baseline	%	Total	Percent	Raw	Net	Total		
Cape & Islands	\$95.5	\$578.8	\$180.00	\$19.1	\$115.90	51%	-9.0%	-3.3%	-	-	-	-	-	-	-	\$3.1		
Bristol+Plymouth	\$434.5	\$642.9	\$199.94	\$122.0	\$180.45	79%	-13.7%	-6.9%	-	-	-	-	-	-	-	\$30.0		
Norfolk	\$267.3	\$564.4	\$175.53	\$86.3	\$182.14	80%	-13.8%	-7.5%	-	-	-	-	-	-	-	\$20.0		
Suffolk	\$400.7	\$867.5	\$269.79	\$128.1	\$277.28	122%	-20.3%	-14.8%	-	-	-	-	-	-	-	\$59.3		
Middlesex	\$571.5	\$548.4	\$170.56	\$248.3	\$238.21	104%	-17.7%	-12.1%	-	-	-	-	-	-	-	\$69.3		
Essex	\$311.8	\$636.3	\$197.91	\$111.2	\$227.01	100%	-16.9%	-11.9%	-	-	-	-	-	-	-	\$37.1		
Subtotal E.	\$2,081.3	\$629.1	\$195.65	\$715.2	\$216.15	95%	-	-	-	-	-	-	-	-	-	\$218.8		
W. Mass.	\$642.4	\$600.3	\$186.69	\$157.6	\$147.29	65%	-11.3%	-4.6%	-	-	-	-	-	-	-	\$29.4		
Total Counties	\$2,723.7	\$622.0	\$193.46	\$872.8	\$199.32	87%	-	-	-	-	-	-	-	-	-	\$248.2		
Other	\$123.7															-\$11.3		
Total Mass.	\$2,847.5															-\$259.5		

Note: "Net" impacts are net of the impacts of existing casinos
on Lottery sales (from Exhibit 8-0).

Exhibit 8-3: Summary of Impacts on Lottery Sales

Scenario:	Impacts:	
	%	\$
1. New Bedford Casino Only	-9.9%	-\$283.3 million
2. " " + Western Mass. Casino	-11.7%	-\$334.3 million
3. New Bedford Casino + Track Slots	-13.1%	-\$373.6 million
4. Both Casinos + Track Slots	-15.0%	-\$428.3 million
5. Track Slots Only (No Casinos)	-9.1%	-\$259.5 million

Appendix A

Sales & Revenues
Lotteries, Casinos, & Devices

Exhibit A-1
New Jersey Sales and Revenues

**New Jersey Sales
(Handle in \$ Millions)**

Year *	Casino		Lottery	
	Handle	Change	Handle	Change
C'83 / F'84	40,039.4		848.0	
C'84 / F'85	44,127.7	10.2%	924.6	9.0%
C'85 / F'86	51,447.1	16.6%	990.1	7.1%
C'86 / F'87	54,263.6	5.5%	1,116.9	12.8%
C'87 / F'88	56,500.9	4.1%	1,174.3	5.1%
C'88 / F'89	61,830.8	9.4%	1,247.0	6.2%
C'89 / F'90	65,129.5	5.3%	1,223.3	-1.9%
C'90 / F'91	67,570.8	3.7%	1,241.6	1.5%
C'91 / F'92	70,203.4	3.9%	1,360.3	9.6%
C'92 / F'93	72,542.6	3.3%	1,363.9	0.3%
C'93 / F'94	73,801.4	1.7%	1,431.1	4.9%
C'94 / F'95	75,912.9	2.9%	1,575.6	10.1%
C'95 / F'96	84,729.3	11.6%	N/A	

**New Jersey Sales
(Handle in \$ Millions)**

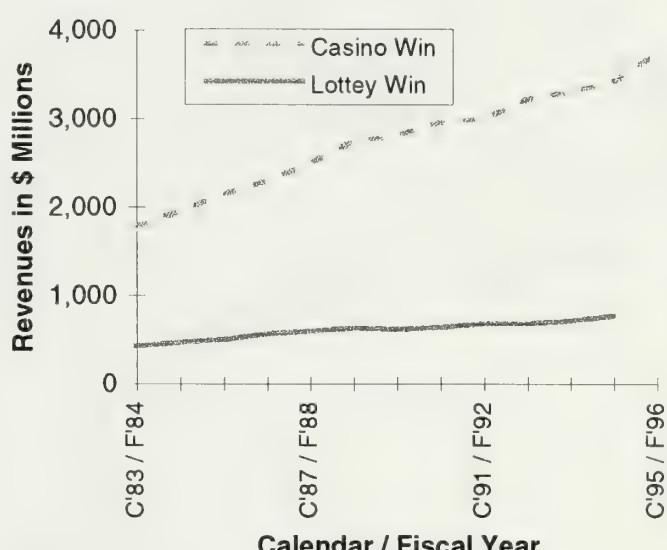


* Casino Calendar Year / Lottery Fiscal Year

**New Jersey Revenues
(Win in \$ Millions)**

Year *	Casino		Lottery	
	Win	Change	Win	Change
C'83 / F'84	1,770.9		422.8	
C'84 / F'85	1,951.8	10.2%	464.5	9.9%
C'85 / F'86	2,138.7	9.6%	493.8	6.3%
C'86 / F'87	2,291.7	7.2%	559.9	13.4%
C'87 / F'88	2,499.0	9.0%	589.4	5.3%
C'88 / F'89	2,734.8	9.4%	624.7	6.0%
C'89 / F'90	2,808.4	2.7%	609.6	-2.4%
C'90 / F'91	2,953.1	5.2%	634.8	4.1%
C'91 / F'92	2,991.5	1.3%	680.3	7.2%
C'92 / F'93	3,216.0	7.5%	679.3	-0.1%
C'93 / F'94	3,301.3	2.7%	708.5	4.3%
C'94 / F'95	3,422.8	3.7%	766.3	8.2%
C'95 / F'96	3,747.6	9.5%	N/A	

**New Jersey Revenues
(Win in \$ Millions)**



* Casino Calendar Year / Lottery Fiscal Year

Exhibit A-2

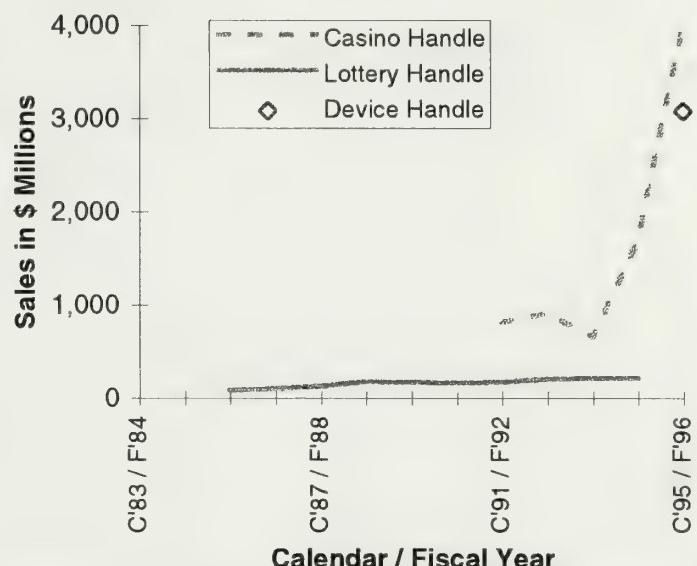
Iowa Sales and Revenues

Iowa Sales (Handle in \$ Millions)

Year *	Casino	Lottery	Devices
	Handle	Handle	Handle
	Chng	Chng	Chng
C'83 / F'84			
C'84 / F'85			
C'85 / F'86		82	
C'86 / F'87		95	16%
C'87 / F'88		124	31%
C'88 / F'89		173	39%
C'89 / F'90		168	-2%
C'90 / F'91		158	-6%
C'91 / F'92	814	165	5%
C'92 / F'93	910	12%	205
C'93 / F'94	650	-29%	207
C'94 / F'95	1,689	160%	208
C'95 / F'96	4,004	137%	N/A
			3,073

* Casino & Devices Calendar Year / Lottery Fiscal Year

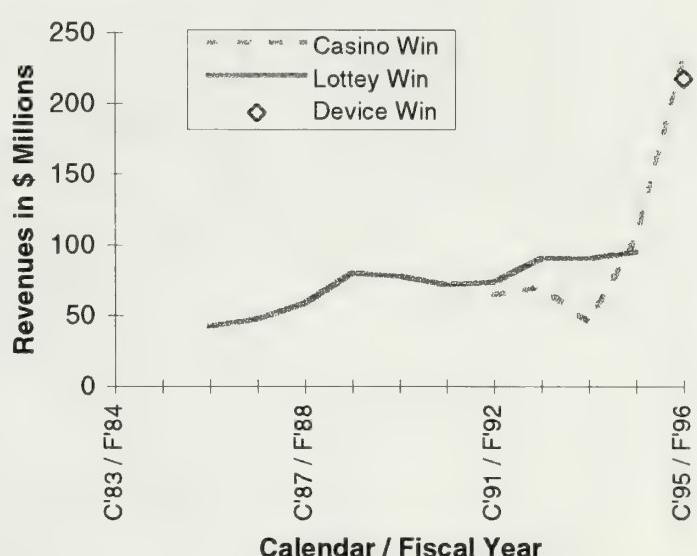
Iowa Sales (Handle in \$ Millions)



Iowa Revenues (Win in \$ Millions)

Year *	Casino	Lottery	Devices
	Win	Win	Win
	Chng	Chng	Chng
C'83 / F'84			
C'84 / F'85			
C'85 / F'86		42	
C'86 / F'87		47	12%
C'87 / F'88		58	23%
C'88 / F'89		80	37%
C'89 / F'90		78	-3%
C'90 / F'91		72	-8%
C'91 / F'92	65	73	3%
C'92 / F'93	70	8%	90
C'93 / F'94	45	-35%	90
C'94 / F'95	105	132%	95
C'95 / F'96	233	123%	N/A
			217

Iowa Revenues (Win in \$ Millions)



* Casino & Devices Calendar Year / Lottery Fiscal Year

Exhibit A-3

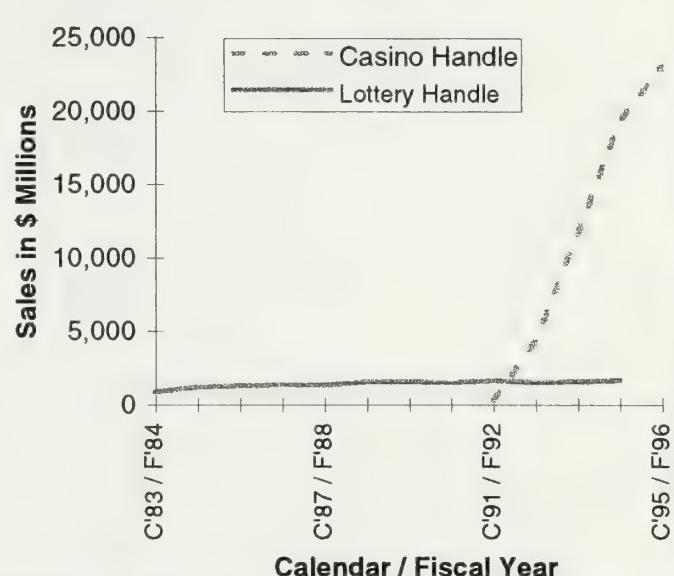
Illinois Sales and Revenues

Illinois Sales
(Handle in \$ Millions)

Year *	Casino		Lottery	
	Handle	Change	Handle	Change
C'83 / F'84			886.1	
C'84 / F'85			1,204.2	35.9%
C'85 / F'86			1,284.1	6.6%
C'86 / F'87			1,303.8	1.5%
C'87 / F'88			1,301.5	-0.2%
C'88 / F'89			1,527.9	17.4%
C'89 / F'90			1,522.5	-0.4%
C'90 / F'91			1,513.1	-0.6%
C'91 / F'92	285.0		1,636.9	8.2%
C'92 / F'93	4,257.2	1394.0%	1,507.0	-7.9%
C'93 / F'94	11,575.1	171.9%	1,528.6	1.4%
C'94 / F'95	19,252.6	66.3%	1,629.6	6.6%
C'95 / F'96	22,985.6	19.4%	N/A	

* Casino Calendar Year / Lottery Fiscal Year

Illinois Sales
(Handle in \$ Millions)



Illinois Revenues
(Win in \$ Millions)

Year *	Casino		Lottery	
	Win	Change	Win	Change
C'83 / F'84			455.9	
C'84 / F'85			617.8	35.5%
C'85 / F'86			652.4	5.6%
C'86 / F'87			656.6	0.6%
C'87 / F'88			610.4	-7.0%
C'88 / F'89			735.2	20.4%
C'89 / F'90			730.9	-0.6%
C'90 / F'91			736.1	0.7%
C'91 / F'92	14.9		764.2	3.8%
C'92 / F'93	226.3	1414.7%	722.2	-5.3%
C'93 / F'94	605.7	167.6%	677.9	-4.1%
C'94 / F'95	979.6	61.7%	784.6	15.7%
C'95 / F'96	1,178.3	20.3%	N/A	

* Casino Calendar Year / Lottery Fiscal Year

Illinois Revenues
(Win in \$ Millions)



Exhibit A-4

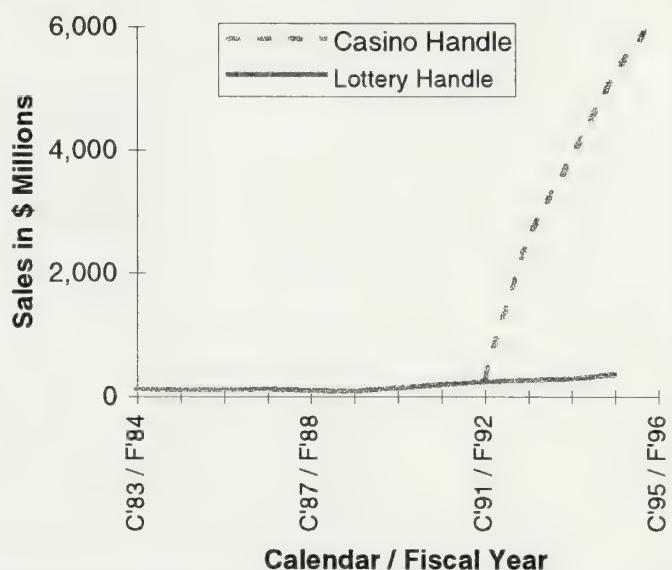
Colorado Sales and Revenues

Colorado Sales
(Handle in \$ Millions)

Year *	Casino		Lottery	
	Handle	Change	Handle	Change
C'83 / F'84			117.6	
C'84 / F'85	105.3	-10.5%		
C'85 / F'86	108.9	3.4%		
C'86 / F'87	113.3	4.0%		
C'87 / F'88	90.9	-19.8%		
C'88 / F'89	78.9	-13.2%		
C'89 / F'90	139.9	77.3%		
C'90 / F'91	185.6	32.7%		
C'91 / F'92	312.0	28.9%		
C'92 / F'93	2,583.7	728.0%	263.5	10.2%
C'93 / F'94	3,856.0	49.2%	286.7	8.8%
C'94 / F'95	5,225.6	35.5%	351.9	22.7%
C'95 / F'96	6,199.1	18.6%	N/A	

* Casino Calendar Year / Lottery Fiscal Year

Colorado Sales
(Handle in \$ Millions)



Colorado Revenues
(Win in \$ Millions)

Year *	Casino		Lottery	
	Win	Change	Win	Change
C'83 / F'84			57.3	
C'84 / F'85	48.2	+1.5%		
C'85 / F'86	47.2	-2.1%		
C'86 / F'87	56.1	18.9%		
C'87 / F'88	44.0	-21.3%		
C'88 / F'89	38.6	-12.3%		
C'89 / F'90	66.7	72.8%		
C'90 / F'91	89.6	34.3%		
C'91 / F'92	23.1	114.2	27.5%	
C'92 / F'93	180.1	678.7%	115.5	1.1%
C'93 / F'94	259.9	44.3%	118.9	2.9%
C'94 / F'95	325.7	25.3%	151.1	27.1%
C'95 / F'96	384.3	18.0%	N/A	

* Casino Calendar Year / Lottery Fiscal Year

Colorado Revenues
(Win in \$ Millions)

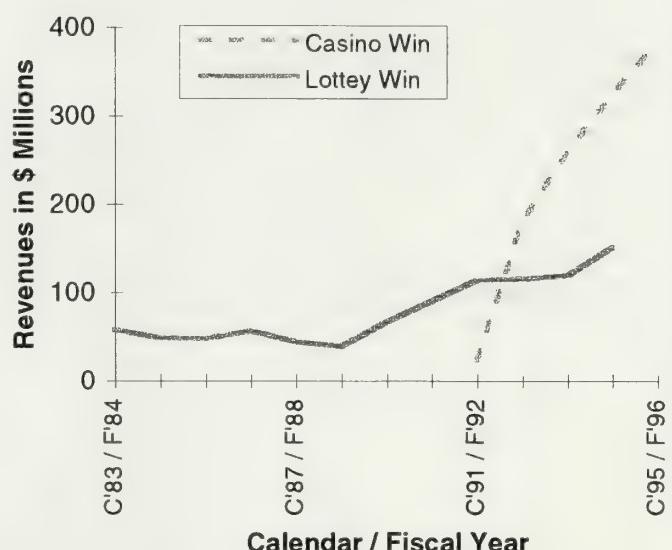


Exhibit A-5
Connecticut Sales and Revenues

**Connecticut Sales
(Handle in \$ Millions)**

Year *	Casino		Lottery	
	Handle	Change	Handle	Change
C'83 / F'84			254.4	
C'84 / F'85			344.4	35.4%
C'85 / F'86			429.1	24.6%
C'86 / F'87			489.3	14.0%
C'87 / F'88			514.6	5.2%
C'88 / F'89			495.6	-3.7%
C'89 / F'90			525.4	6.0%
C'90 / F'91			531.2	1.1%
C'91 / F'92			543.9	2.4%
C'92 / F'93	N/A		552.6	1.6%
C'93 / F'94	7,430.0		552.3	-0.1%
C'94 / F'95	13,823.5	86.1%	670.6	21.4%
C'95 / F'96	16,867.8	22.0%	N/A	

* Casino Calendar Year / Lottery Fiscal Year

**Connecticut Sales
(Handle in \$ Millions)**



**Connecticut Revenues
(Win in \$ Millions)**

Year *	Casino		Lottery	
	Win	Change	Win	Change
C'83 / F'84			121.6	
C'84 / F'85			164.6	35.4%
C'85 / F'86			215.8	31.1%
C'86 / F'87			245.7	13.9%
C'87 / F'88			250.5	2.0%
C'88 / F'89			241.7	-3.5%
C'89 / F'90			298.9	23.7%
C'90 / F'91			249.9	-16.4%
C'91 / F'92			255.3	2.2%
C'92 / F'93	N/A		238.8	-5.5%
C'93 / F'94	408.2		243.2	1.8%
C'94 / F'95	759.5	86.1%	284.8	17.1%
C'95 / F'96	926.8	22.0%	N/A	

**Connecticut Revenues
(Win in \$ Millions)**



* Casino Calendar Year / Lottery Fiscal Year

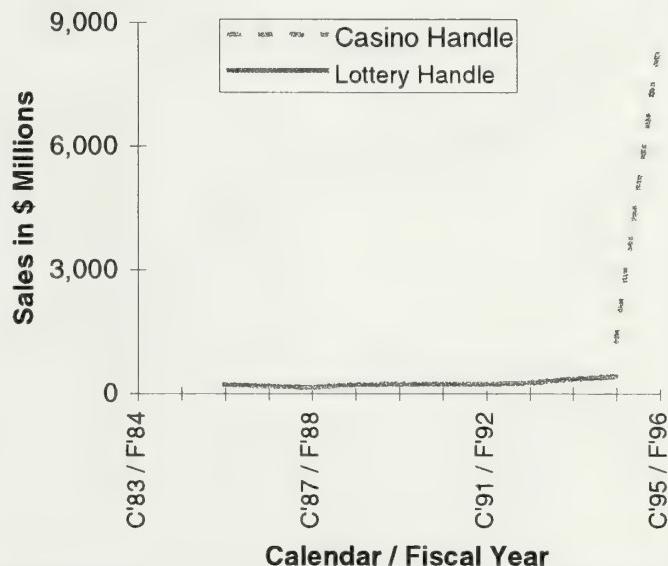
Exhibit A-6
Missouri Sales and Revenues

Missouri Sales
(Handle in \$ Millions)

Year *	Casino Handle	Change	Lottery Handle	Change
C'83 / F'84			207.0	
C'84 / F'85			174.1	-15.9%
C'85 / F'86			147.8	-15.1%
C'86 / F'87			199.2	34.8%
C'87 / F'88			223.4	12.1%
C'88 / F'89			216.2	-3.2%
C'89 / F'90			220.5	2.0%
C'90 / F'91			257.1	16.6%
C'91 / F'92			350.5	36.3%
C'92 / F'93	1,259.0		412.6	17.7%
C'93 / F'94				
C'94 / F'95	8,481.1	573.6%	N/A	

* Casino Calendar Year / Lottery Fiscal Year

Missouri Sales
(Handle in \$ Millions)



Missouri Revenues
(Win in \$ Millions)

Year *	Casino Win	Change	Lottery Win	Change
C'83 / F'84			110.8	
C'84 / F'85			95.6	-13.7%
C'85 / F'86			80.0	-16.3%
C'86 / F'87			99.1	23.9%
C'87 / F'88			107.3	8.3%
C'88 / F'89			100.9	-6.0%
C'89 / F'90			105.2	4.3%
C'90 / F'91			118.6	12.7%
C'91 / F'92			161.2	35.9%
C'92 / F'93	44.1		164.1	1.8%
C'93 / F'94				
C'94 / F'95	466.5	958.6%	N/A	

* Casino Calendar Year / Lottery Fiscal Year

Missouri Revenues
(Win in \$ Millions)

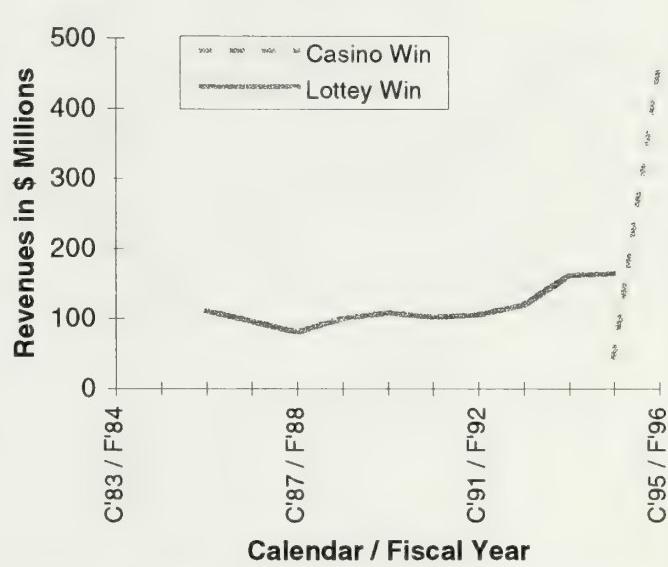


Exhibit A-7
Ontario Sales and Revenues

**Ontario Sales
(Handle in \$ Millions)**

Year *	Casino		Lottery	
	Handle	Change	Handle	Change
FY 1984			608.7	
FY 1985			759.4	24.8%
FY 1986			946.4	24.6%
FY 1987			1,254.4	32.5%
FY 1988			1,272.7	1.5%
FY 1989			1,300.6	2.2%
FY 1990			1,319.6	1.5%
FY 1991			1,350.8	2.4%
FY 1992			1,406.3	4.1%
FY 1993			1,665.3	18.4%
FY 1994			1,886.1	13.3%
FY 1995	N/A		1,941.8	3.0%
FY 1996				

* All Years are Fiscal Years

**Ontario Sales
(Handle in \$ Millions)**



**Ontario Revenues
(Win in \$ Millions)**

Year *	Casino		Lottery	
	Win	Change	Win	Change
FY 1984			267.7	
FY 1985			343.9	28.5%
FY 1986			435.5	26.6%
FY 1987			580.6	33.3%
FY 1988			593.1	2.2%
FY 1989			615.0	3.7%
FY 1990			633.7	3.0%
FY 1991			710.9	12.2%
FY 1992			732.0	3.0%
FY 1993			856.5	17.0%
FY 1994			944.7	10.3%
FY 1995	419.0		983.1	4.1%
FY 1996				

* All Years are Fiscal Years

**Ontario Revenues
(Win in \$ Millions)**

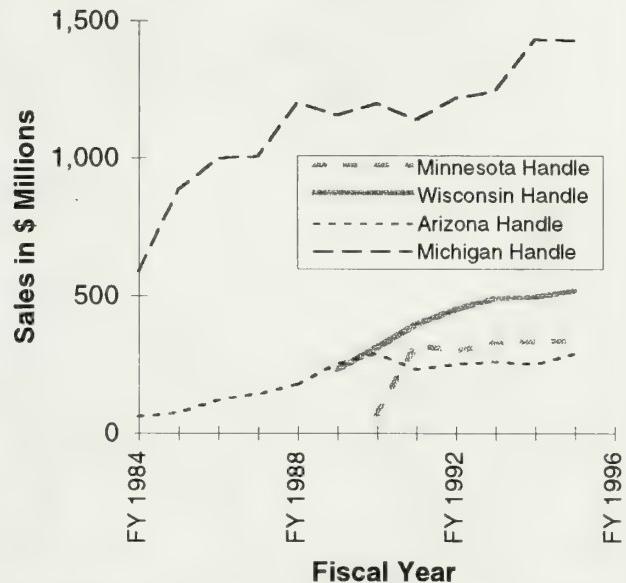


Exhibit A-8
Minnesota, Wisconsin, Arizona, & Michigan Lottery Sales and Revenues

**Minn, Wisc, Ariz, Mich Lottery Sales
(Handle in \$ Millions)**

Year *	Minnesota Hndl	Wisconsin Hndl	Arizona Hndl	Michigan Hndl	Chng
FY 1984			59	585	
FY 1985			73	23%	886 51%
FY 1986			121	66%	999 13%
FY 1987			142	18%	1,006 1%
FY 1988			176	24%	1,201 19%
FY 1989	230	252	43%	1,155	-14%
FY 1990	68	310	35%	288 14%	1,198 4%
FY 1991	322	374% 396	28%	231	-20% 1,139 -5%
FY 1992	298	449	13%	249	8% 1,219 7%
FY 1993	329	10% 490	9%	259	4% 1,243 2%
FY 1994	332	1% 496	1%	249	-4% 1,433 15%
FY 1995	336	1% 519	5%	286	15% 1,427 -1%
FY 1996					

**Minn, Wisc, Ariz, Mich Lottery Sales
(Handle in \$ Millions)**

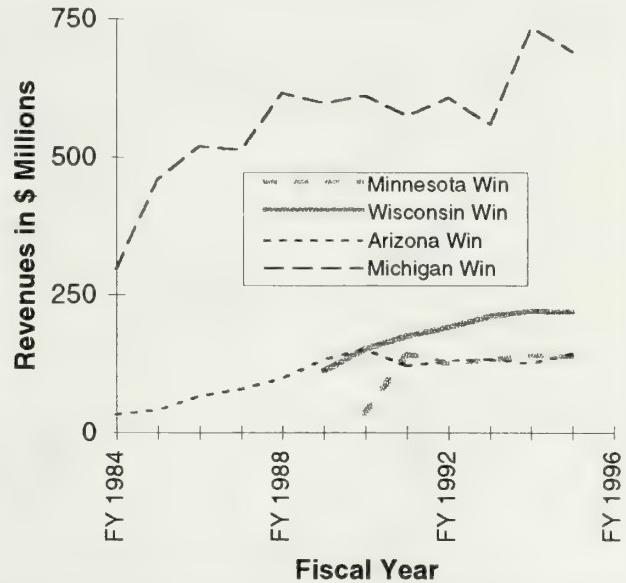


* All Lottery Years are Fiscal Years

**Minn, Wisc, Ariz, Mich Lottery Revenues
(Win in \$ Millions)**

Year *	Minnesota Win	Wisconsin Win	Arizona Win	Michigan Win	Chng	
FY 1984			33	296		
FY 1985			39	18% 459	55% 55%	
FY 1986			66	67% 518	13% 13%	
FY 1987			79	19% 512	-11% -11%	
FY 1988			97	24% 614	20% 20%	
FY 1989	111	132	36%	597	-3%	
FY 1990	34	151	36% 151	14% 610	2% 2%	
FY 1991	142	174	324% 15%	121	-20% 573	-6% -6%
FY 1992	125	190	-12% 9%	130	8% 606	6% 6%
FY 1993	132	210	6% 11%	132	2% 558	-8% -8%
FY 1994	139	220	6% 5%	125	-5% 734	31% 31%
FY 1995	139	219	-1% -1%	143	15% 689	-2% -2%
FY 1996						

**Minn, Wisc, Ariz, Mich Lottery Revenues
(Win in \$ Millions)**



* All Lottery Years are Fiscal Years

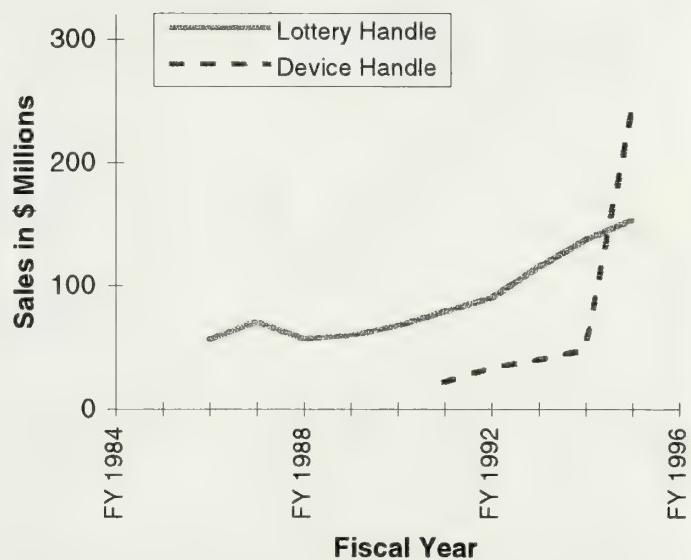
Exhibit A-9
West Virginia Sales and Revenues

**West Virginia Sales
(Handle in \$ Millions)**

Year *	Lottery		Device	
	Handle	Change	Handle	Change
FY 1984				
FY 1985				
FY 1986	55.9			
FY 1987	70.5	26.1%		
FY 1988	56.5	-17.9%		
FY 1989	59.2	4.8%		
FY 1990	67.0	13.2%		
FY 1991	78.7	17.5%	21.6	
FY 1992	89.5	13.7%	32.9	52.1%
FY 1993	115.0	28.4%	39.9	21.2%
FY 1994	136.7	19.0%	47.8	19.8%
FY 1995	153.1	12.0%	241.4	404.9%
FY 1996				

* All Years are Fiscal Years

**West Virginia Sales
(Handle in \$ Millions)**



**West Virginia Revenues
(Win in \$ Millions)**

Year *	Lottery		Device	
	Win	Change	Win	Change
FY 1984				
FY 1985				
FY 1986	29.7			
FY 1987	40.5	36.4%		
FY 1988	30.0	-25.0%		
FY 1989	32.7	9.0%		
FY 1990	35.5	8.6%		
FY 1991	41.7	17.5%	2.6	
FY 1992	47.4	13.7%	3.9	50.9%
FY 1993	61.0	28.5%	4.6	20.1%
FY 1994	72.5	18.9%	5.6	19.7%
FY 1995	81.1	12.0%	28.1	405.2%
FY 1996				

* All Years are Fiscal Years

**West Virginia Revenues
(Win in \$ Millions)**

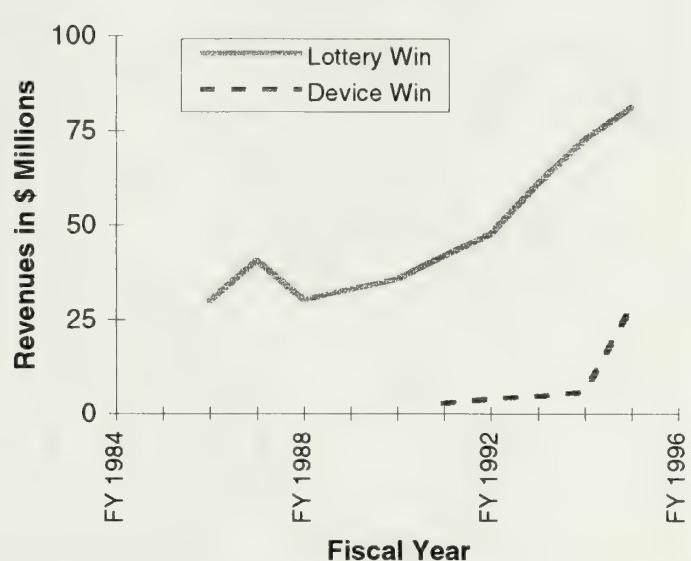
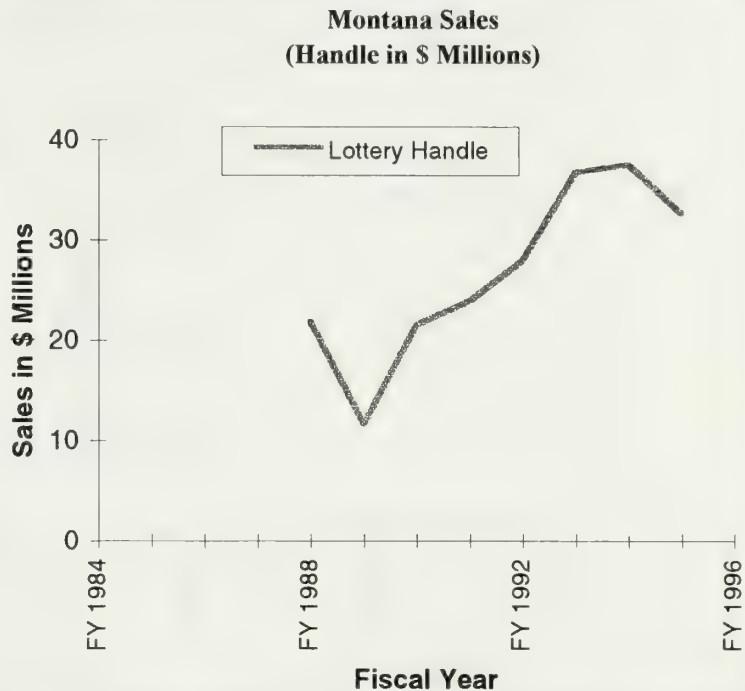


Exhibit A-10
Montana Sales and Revenues

Montana Sales (Handle in \$ Millions)		
Year *	Lottery Handle	Change
FY 1984		
FY 1985		
FY 1986		
FY 1987		
FY 1988	21.8	
FY 1989	11.6	-46.8%
FY 1990	21.5	85.3%
FY 1991	23.9	11.2%
FY 1992	27.9	16.7%
FY 1993	36.7	31.5%
FY 1994	37.5	2.2%
FY 1995	32.6	-13.1%
FY 1996		

* All Years are Fiscal Years



Montana Revenues (Win in \$ Millions)		
Year *	Lottery Win	Change
FY 1984		
FY 1985		
FY 1986		
FY 1987		
FY 1988	12.0	
FY 1989	6.3	-47.5%
FY 1990	11.3	79.4%
FY 1991	12.2	8.0%
FY 1992	14.3	17.2%
FY 1993	19.0	32.9%
FY 1994	19.3	1.6%
FY 1995	16.4	-15.0%
FY 1996		

* All Years are Fiscal Years

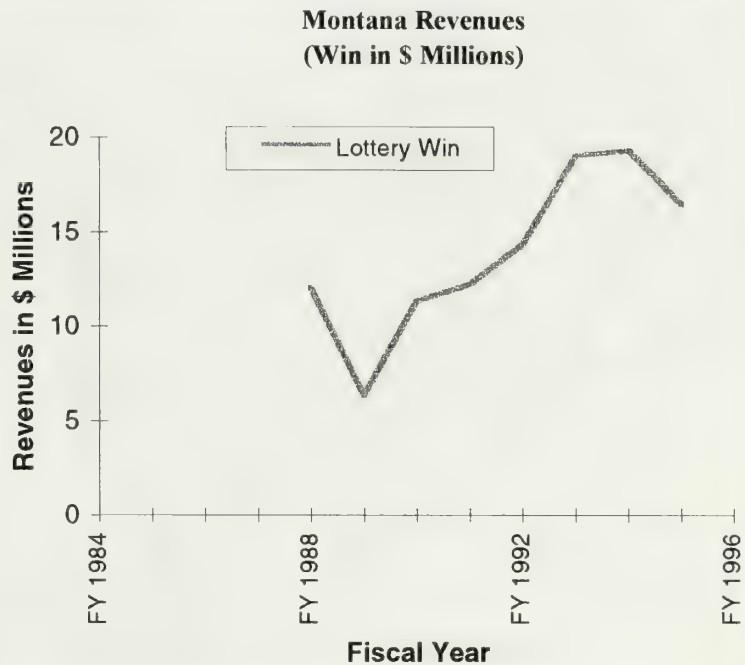


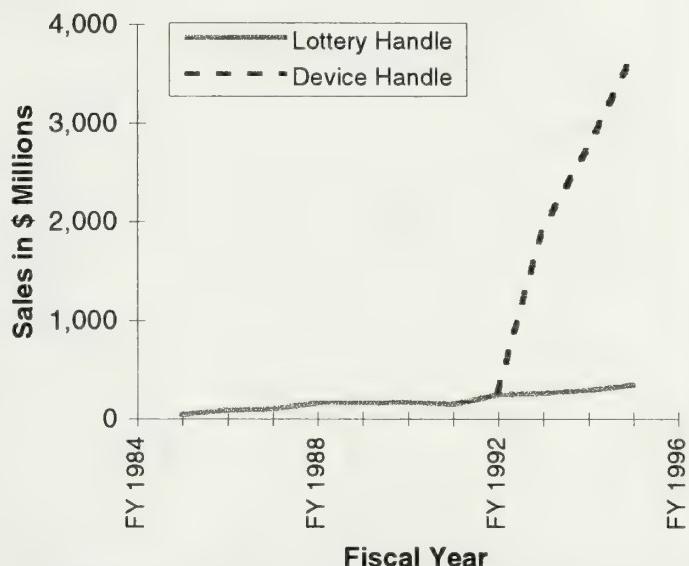
Exhibit A-11
Oregon Sales and Revenues

Oregon Sales
(Handle in \$ Millions)

Year *	Lottery		Device	
	Handle	Change	Handle	Change
FY 1984				
FY 1985	42.2			
FY 1986	87.4	107.1%		
FY 1987	100.3	14.8%		
FY 1988	159.9	59.4%		
FY 1989	154.9	-3.1%		
FY 1990	161.4	4.2%		
FY 1991	146.6	-8.2%		
FY 1992	244.4	66.7%	269.5	
FY 1993	257.7	5.4%	1,916.1	611.0%
FY 1994	287.7	11.6%	2,744.7	43.2%
FY 1995	339.5	18.0%	3,678.9	34.0%
FY 1996				

* All Years are Fiscal Years

Oregon Sales
(Handle in \$ Millions)



Oregon Revenues
(Win in \$ Millions)

Year *	Lottery		Device	
	Win	Change	Win	Change
FY 1984				
FY 1985	20.7			
FY 1986	41.7	101.4%		
FY 1987	49.3	18.2%		
FY 1988	78.5	59.2%		
FY 1989	74.4	-5.2%		
FY 1990	74.8	0.5%		
FY 1991	67.1	-10.3%		
FY 1992	112.4	67.5%	24.3	
FY 1993	118.5	5.4%	172.4	611.0%
FY 1994	132.3	11.6%	247.0	43.2%
FY 1995	156.1	18.0%	331.1	34.0%
FY 1996				

* All Years are Fiscal Years

Oregon Revenues
(Win in \$ Millions)

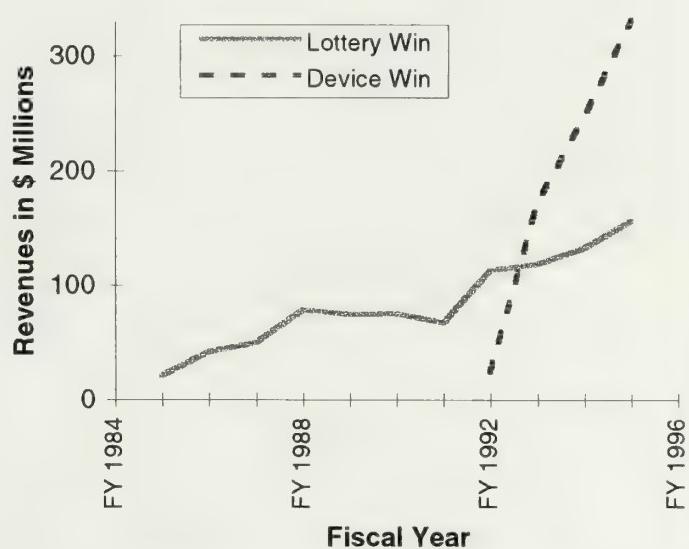
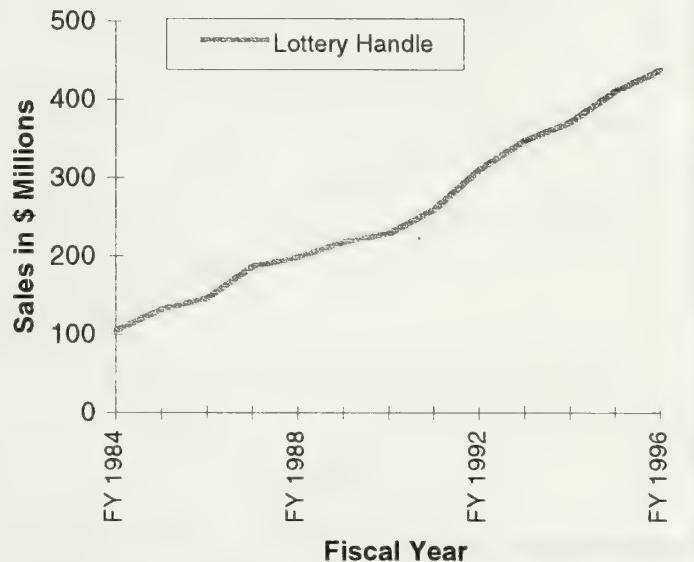


Exhibit A-12a
Atlantic Lotteries Sales and Revenues

**Atlantic Lotteries Sales
(Handle in \$ Millions)**

Year *	Devices		Lottery		
	Handle	Change	Handle	Change	
FY 1984			104.5		
FY 1985			131.8	26.1%	
FY 1986			145.2	10.2%	
FY 1987			186.1	28.2%	
FY 1988			197.5	6.1%	
FY 1989			217.3	10.0%	
FY 1990			227.9	4.9%	
FY 1991	N/A		258.6	13.4%	
FY 1992	N/A		309.5	19.7%	
FY 1993	N/A		347.1	12.2%	
FY 1994	N/A		370.4	6.7%	
FY 1995	N/A		409.8	10.6%	
FY 1996	N/A		437.1	6.7%	

**Atlantic Lotteries Sales
(Handle in \$ Millions)**

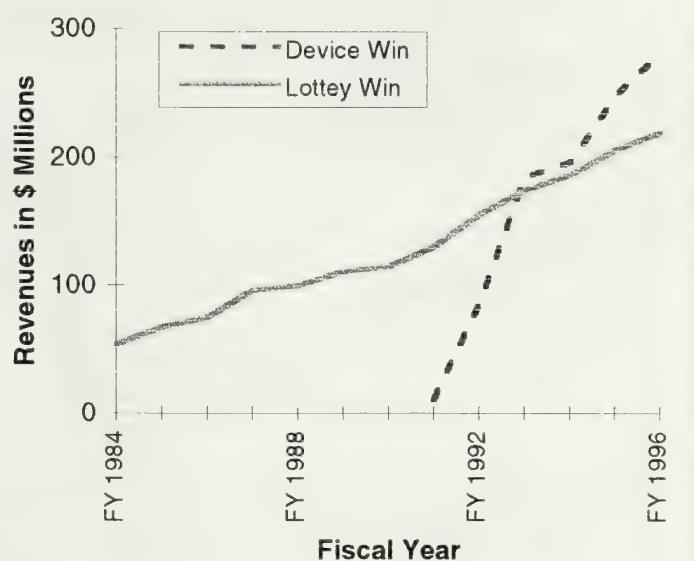


* All Years are Fiscal Years

**Atlantic Lotteries Revenues
(Win in \$ Millions)**

Year *	Device		Lottery		
	Win	Change	Win	Change	
FY 1984			53.4		
FY 1985			66.8	25.1%	
FY 1986			74.5	11.5%	
FY 1987			95.4	28.1%	
FY 1988			99.4	4.2%	
FY 1989			110.1	10.8%	
FY 1990			114.0	3.5%	
FY 1991	10.1		129.3	13.4%	
FY 1992	84.5	733.5%	154.8	19.7%	
FY 1993	183.9	117.7%	173.6	12.2%	
FY 1994	195.5	6.3%	185.2	6.7%	
FY 1995	246.5	26.1%	204.9	10.6%	
FY 1996	281.0	14.0%	218.6	6.7%	

**Atlantic Lotteries Revenues
(Win in \$ Millions)**



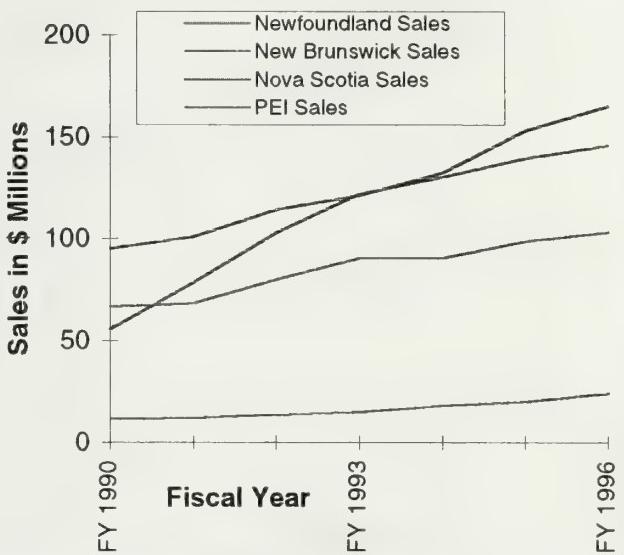
* All Years are Fiscal Years

Exhibit A-12b
Atlantic Lotteries Sales and Revenues by Lottery

**Newfndln, New Brns, Nova Scot, PEI Lottery Sales
(Handle in \$ Millions)**

Year *	Newfndln	New Brns	Nova Scot	PEI
	Hndl	Hndl	Hndl	Hndl
	Chng	Chng	Chng	Chng
Lottery Sales (Handle)				
FY 1990	55	66	95	12
FY 1991	78	42%	68	2%
FY 1992	102	31%	80	17%
FY 1993	122	19%	90	13%
FY 1994	130	7%	90	0%
FY 1995	139	7%	98	9%
FY 1996	145		103	5%
			165	8%
			24	22%

**Newfndln, New Brns, Nova Scot, PEI Lottery Sales
(Handle in \$ Millions)**

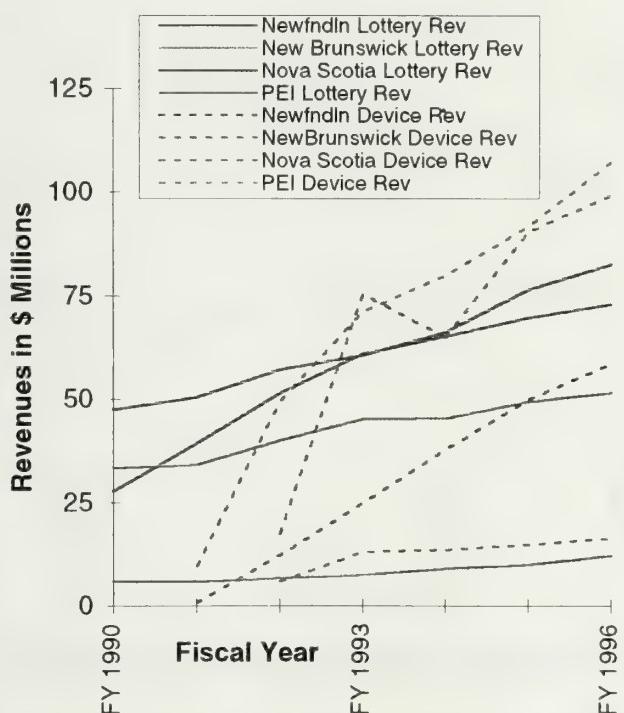


* All Years are Fiscal Years

**Newfnd, NewBrns, NovaSet, PEI Lottery & Dev Rev
(Win in \$ Millions)**

Year *	Newfndln	New Brns	Nova Scot	PEI
	Win	Chng	Win	Chng
	Chng	Chng	Chng	Chng
Lottery Revenue (Win)				
FY 1990	28		33	
FY 1991	39	42%	34	2%
FY 1992	51	31%	40	17%
FY 1993	61	19%	45	13%
FY 1994	65	7%	45	0%
FY 1995	70	7%	49	9%
FY 1996	73	5%	51	5%
			82	8%
			12	22%

**Newfnd, NewBrns, NovaSet, PEI Lottery & Dev Rev
(Win in \$ Millions)**



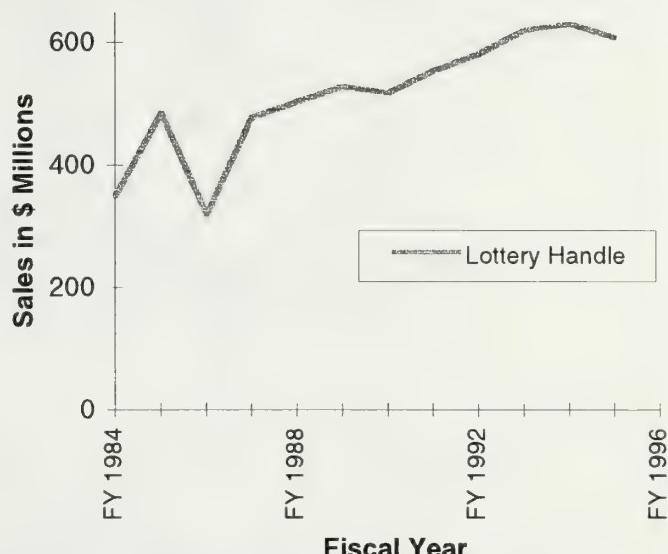
* All Years are Fiscal Years

Exhibit A-13a
Western Canada Lotteries Sales and Revenues

Western Canada Lotteries Sales
(Handle in \$ Millions)

Year *	Devices		Lottery	
	Handle	Change	Handle	Change
FY 1984			348.9	
FY 1985	483.9	38.7%		
FY 1986	317.9	-34.3%		
FY 1987	476.6	49.9%		
FY 1988	501.9	5.3%		
FY 1989	527.7	5.1%		
FY 1990	516.6	-2.1%		
FY 1991	552.3	6.9%		
FY 1992	580.5	5.1%		
FY 1993	N/A	619.4	6.7%	
FY 1994	N/A	629.5	1.6%	
FY 1995	N/A	607.2	-3.5%	
FY 1996				

Western Canada Lotteries Sales
(Handle in \$ Millions)

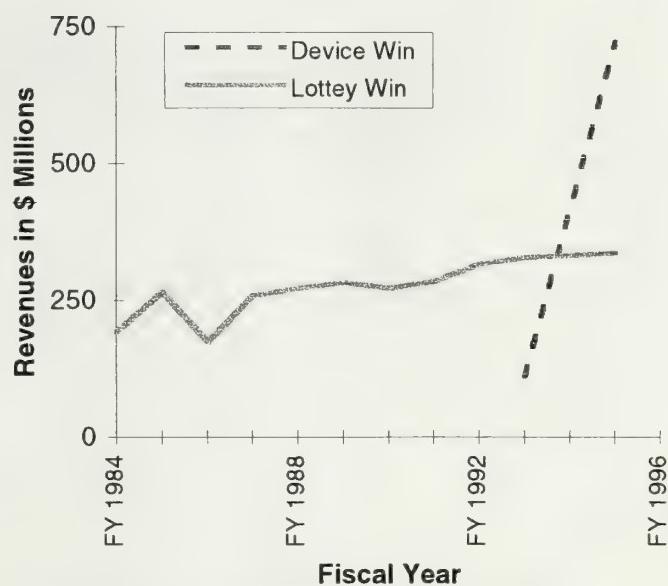


* All Years are Fiscal Years

Western Canada Lotteries Revenues
(Win in \$ Millions)

Year *	Device		Lottery	
	Win	Change	Win	Change
FY 1984			192.3	
FY 1985	264.2	37.4%		
FY 1986	173.2	-33.9%		
FY 1987	257.8	48.8%		
FY 1988	271.3	5.2%		
FY 1989	281.4	3.7%		
FY 1990	271.8	-3.4%		
FY 1991	284.5	4.7%		
FY 1992	316.3	11.2%		
FY 1993	111.2	327.6	3.6%	
FY 1994	419.2	277.0%	331.8	1.3%
FY 1995	721.6	72.1%	335.5	1.1%
FY 1996				

Western Canada Lotteries Revenues
(Win in \$ Millions)



* All Years are Fiscal Years

Exhibit A-13b
Available Detail for Alberta, Saskatchewan, and Manitoba

Lottery Sales (Handle)				
FY	Alberta	Saskatchewan	Manitoba	Total¹
1990	291.2	N/A	N/A	—
1991	315.1	N/A	126.6	—
1992	332.9	N/A	129.3	—
1993	364.9	117.8	136.7	619.4
1994	381.5	116.5	131.5	629.5
1995	362.2	114.2	130.8	607.2

Lottery Revenues (Win)				
FY	Alberta	Saskatchewan	Manitoba	Total
1990	133.9	N/A	N/A	—
1991	144.9	N/A	N/A	—
1992	153.1	N/A	N/A	—
1993	167.8	N/A	N/A	—
1994	175.5	N/A	N/A	—
1995	166.6	N/A	N/A	—

Device Revenues (Win)				
FY	Alberta	Saskatchewan	Manitoba	Total
1990				
1991				
1992				
1993	49.3		61.9	111.2
1994	268.9	34.8	115.5	419.2
1995	452.6	136.8	132.2	721.6

Casino Revenues (Win)				
FY	Alberta	Saskatchewan	Manitoba	Total
1990			1.5	1.5
1991			8.6	8.6
1992			13.6	13.6
1993			27.7	27.7
1994			79.2	79.2
1995			98.6	98.6

¹ Where there is data for all three provinces, a total is shown for the convenience of the reader. This total differs slightly from the reported results for Western Canada because Western Canada results include the Northwest Territories and the Yukon.

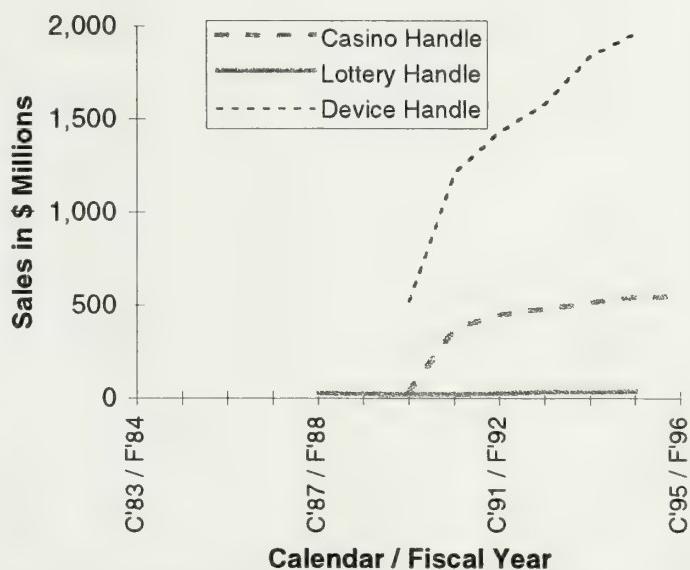
Exhibit A-14
South Dakota Sales and Revenues

**South Dakota Sales
(Handle in \$ Millions)**

Year *	Casino Handle	Lottery Handle	Devices Handle
	Chng	Chng	Chng
C'83 / F'84			
C'84 / F'85			
C'85 / F'86			
C'86 / F'87			
C'87 / F'88		26	
C'88 / F'89	30	21	-13%
C'89 / F'90	371	1122%	18
C'90 / F'91	443	19%	23
C'91 / F'92	478	8%	30
C'92 / F'93	511	7%	33
C'93 / F'94	540	6%	35
C'94 / F'95	547	1%	N/A
C'95 / F'96			N/A

* Casino Calendar Year / Lottery & Devices Fiscal Year

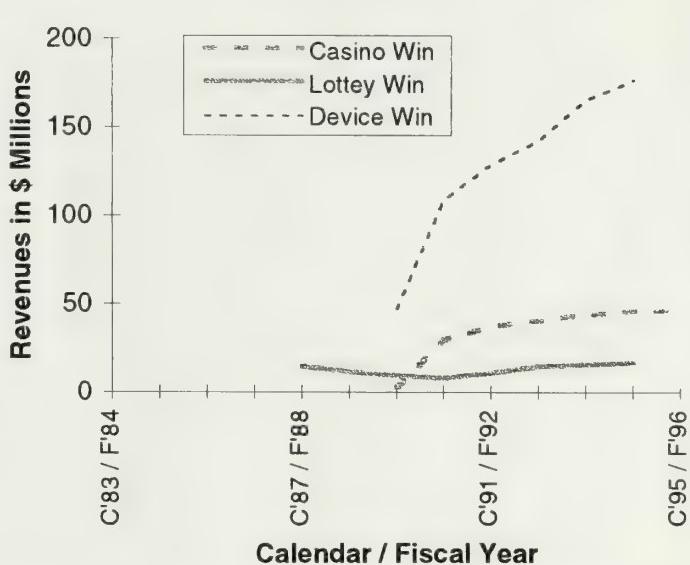
**South Dakota Sales
(Handle in \$ Millions)**



**South Dakota Revenues
(Win in \$ Millions)**

Year *	Casino Win	Lottery Win	Devices Win
	Chng	Chng	Chng
C'83 / F'84			
C'84 / F'85			
C'85 / F'86			
C'86 / F'87			
C'87 / F'88		14	
C'88 / F'89	2	11	-20%
C'89 / F'90	29	1227%	9
C'90 / F'91	37	126%	8
C'91 / F'92	40	9%	11
C'92 / F'93	43	8%	14
C'93 / F'94	46	5%	15
C'94 / F'95	46	1%	16
C'95 / F'96	46	N/A	N/A

**South Dakota Revenues
(Win in \$ Millions)**



* Casino Calendar Year / Lottery & Devices Fiscal Year

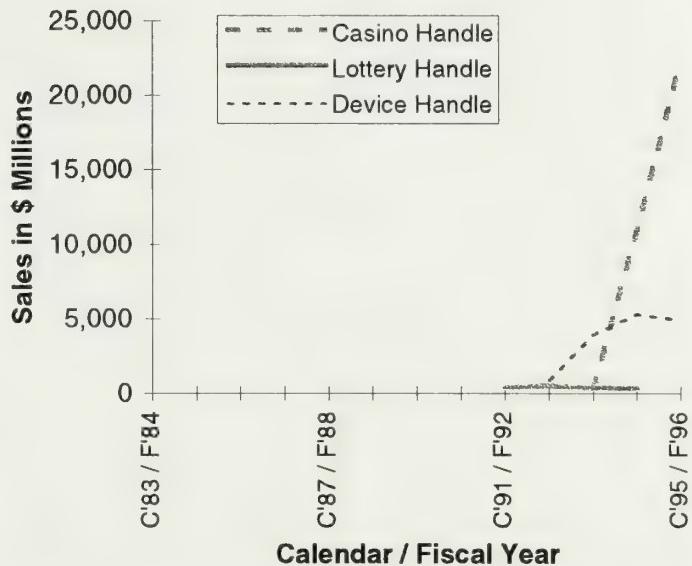
Exhibit A-15
Louisiana Sales and Revenues

Louisiana Sales
(Handle in \$ Millions)

Year *	Casino Handle	Lottery Handle	Devices Handle
C'83 / F'84			
C'84 / F'85			
C'85 / F'86			
C'86 / F'87			
C'87 / F'88			
C'88 / F'89			
C'89 / F'90			
C'90 / F'91			
C'91 / F'92	380		
C'92 / F'93	493	30%	838
C'93 / F'94	295	35%	3,896
C'94 / F'95	10,916	3596%	5,273
C'95 / F'96	22,335	105%	N/A
			4,861

* Casino & Devices Calendar Year / Lottery Fiscal Year

Louisiana Sales
(Handle in \$ Millions)



Louisiana Revenues
(Win in \$ Millions)

Year *	Casino Win	Lottery Win	Devices Win
C'83 / F'84			
C'84 / F'85			
C'85 / F'86			
C'86 / F'87			
C'87 / F'88			
C'88 / F'89			
C'89 / F'90			
C'90 / F'91			
C'91 / F'92	188		
C'92 / F'93	246	31%	59
C'93 / F'94	16	35%	312
C'94 / F'95	600	3596%	475
C'95 / F'96	1,117	86%	N/A
			438

* Casino & Devices Calendar Year / Lottery Fiscal Year

Louisiana Revenues
(Win in \$ Millions)

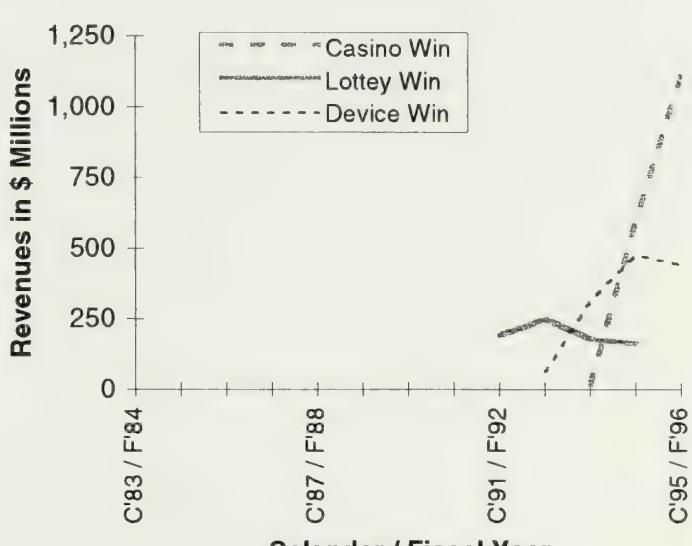


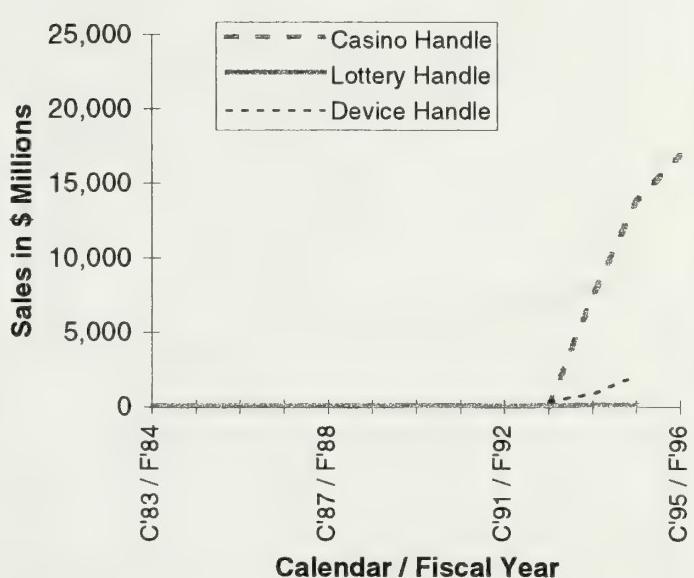
Exhibit A-16
Rhode Island Sales and Revenues

Rhode Island Sales
(Handle in \$ Millions)

Year *	CT Casinos	Lottery	Devices
	Handle	Handle	Handle
	Chng	Chng	Chng
C'83 / F'84		53	
C'84 / F'85		52	-1%
C'85 / F'86		57	9%
C'86 / F'87		58	2%
C'87 / F'88		61	6%
C'88 / F'89		61	-1%
C'89 / F'90		66	8%
C'90 / F'91		66	-1%
C'91 / F'92		65	-2%
C'92 / F'93	N/A	105	63%
C'93 / F'94	7,430	119	14% 135%
C'94 / F'95	13,824	86%	143 19% 2,133 150%
C'95 / F'96	16,868	22%	

* Casino & Devices Calendar Year / Lottery Fiscal Year

Rhode Island Sales
(Handle in \$ Millions)



Rhode Island Revenues
(Win in \$ Millions)

Year *	CT Casinos	Lottery	Devices			
	Win	Chng	Win	Chng	Win	Chng
C'83 / F'84		26				
C'84 / F'85		26	0%			
C'85 / F'86		30	14%			
C'86 / F'87		29	-1%			
C'87 / F'88		30	2%			
C'88 / F'89		31	5%			
C'89 / F'90		36	14%			
C'90 / F'91		35	-1%			
C'91 / F'92		33	-6%			
C'92 / F'93	N/A	55	65%	33		
C'93 / F'94	408	62	14%	77	135%	
C'94 / F'95	760	86%	74	19%	192	150%
C'95 / F'96	927	22%				

* Casino & Devices Calendar Year / Lottery Fiscal Year

Rhode Island Revenues
(Win in \$ Millions)

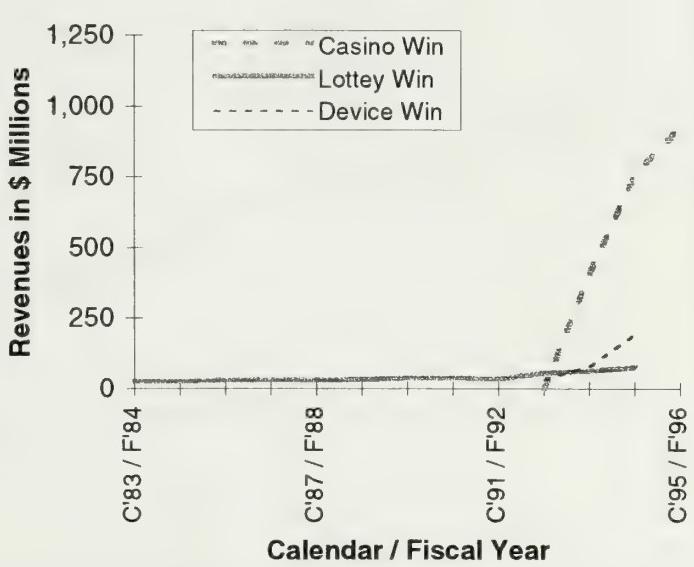
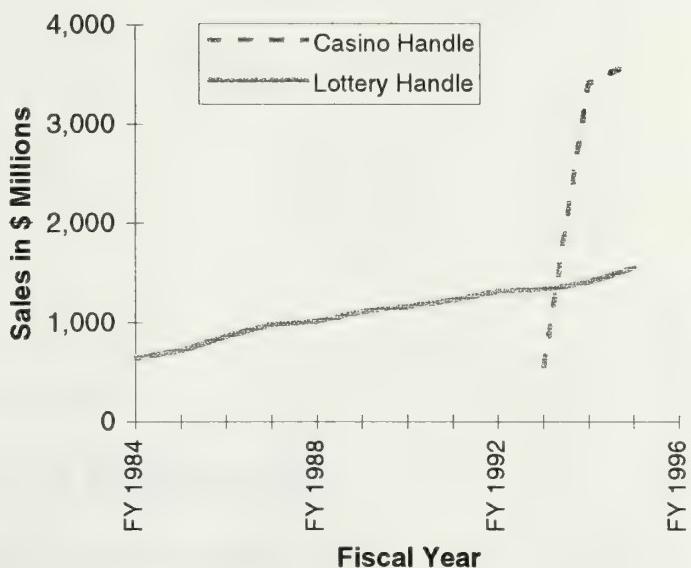


Exhibit A-17
Québec Sales and Revenues

Québec Sales
(Handle in \$ Millions)

Year *	Casino		Lottery		Devices	
	Handle	Chng	Handle	Chng	Handle	Chng
FY 1984			640			
FY 1985			718			
FY 1986			861			
FY 1987		975	13%			
FY 1988			1,008	3%		
FY 1989			1,111	10%		
FY 1990			1,162	5%		
FY 1991			1,228	6%		
FY 1992			1,316	7%		
FY 1993	553		1,328	1%		
FY 1994	3,405	516%	1,409	6%		
FY 1995	3,619	6%	1,554	10%		
FY 1996						

Québec Sales
(Handle in \$ Millions)

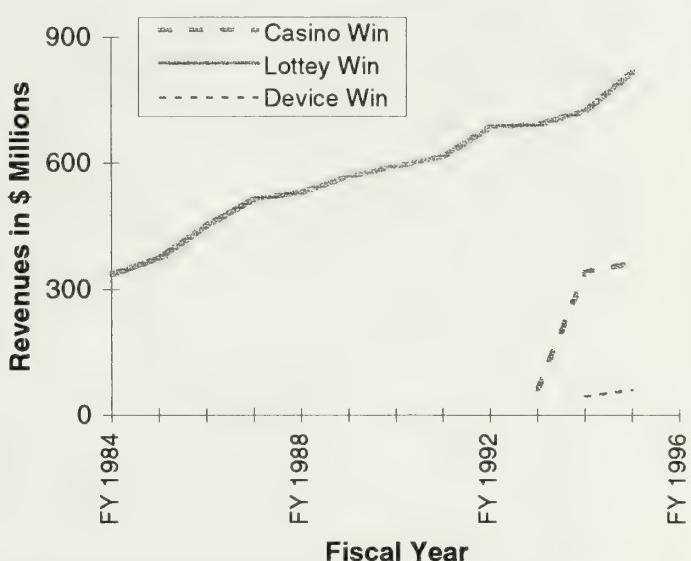


* All Years are Fiscal Years

Québec Revenues
(Win in \$ Millions)

Year *	Casino		Lottery		Devices	
	Win	Chng	Win	Chng	Win	Chng
FY 1984			335			
FY 1985			376	12%		
FY 1986			451	20%		
FY 1987			514	14%		
FY 1988			530	3%		
FY 1989			568	7%		
FY 1990			592	4%		
FY 1991			616	4%		
FY 1992			686	11%		
FY 1993	62		692	1%		
FY 1994	342	451%	725	5%	45	
FY 1995	363	6%	819	13%	60	34%
FY 1996						

Québec Revenues
(Win in \$ Millions)



* All Years are Fiscal Years

Appendix B

*Analysis of Existing
Casino/Device Markets*

Analyses of Existing Casino/Device Markets

Our projections for the proposed Massachusetts gaming facilities are based upon analyses of the demographics of Massachusetts and of the states surrounding it. As described in the main body of our report, we have applied ratios derived from the experience of existing markets in other states to the population surrounding the proposed Massachusetts locations in order to estimate customers' spending and the resulting gaming revenues, or "win."¹ The derivation of these ratios is described in this Appendix. In the following exhibits, we compare casino table and device revenues with the population surrounding the gaming facilities in a variety of markets in order to calculate average annual spending per person, adjusted for distance (specifically, to "within ten miles" of each site) and other important factors. The first section reviews the experience of relevant casino markets around the country, while the second focuses on "video lottery terminals" (VLTs) and similar devices outside traditional casino environments, including in particular gaming devices at race tracks.

U.S. Casino Markets

The recent proliferation of casinos across the United States was prompted by two developments: first, federal court decisions and legislation authorized large-scale Indian gaming, and secondly, several midwestern states including the Dakotas and Iowa legalized "limited" casino gaming in various forms. Iowa was the first state to authorize riverboat casinos, as a tourist-oriented, economic-development measure. Illinois rapidly followed suit, and the Mississippi river front between these two states became a hotbed of riverboat casino competition.¹ Exhibit B-1 summarizes² our analyses of the sources of the revenues of the

¹ Illinois's riverboat legislation placed fewer limitations on gaming than Iowa's original law, with the ultimate result that all but one of Iowa's first riverboats sailed on down the river in search of greener pastures. Iowa then lifted some of its more onerous restrictions (in particular, its \$5 betting limit and its limit of \$200 on total chips bought, and it also now has very lenient requirements regarding cruising), brought riverboats back, and is now winning this particular battle between the states for casino/tourism dollars. In addition to priority in terms of chronology, we at GSG have been working with clients in these markets since long before the coming of the riverboats; we have analyzed them most thoroughly, and thus put them first in our compilation of markets in other states.

² The full analysis is the product of a model similar to that for which the inputs are described in chapter 7 of the main body of this report: each county in the relevant market area is characterized by its population, per capita income, urban/rural nature, distance from nearest casino, and competitive factors.

most "mature" of these markets, those of the Quad Cities, Clinton, and Dubuque, along the Iowa/Illinois border. The "Core" counties are those containing or adjacent to a riverboat docking site. They contain a total adult population of approximately 586,000; we estimate that in 1995 these people spent an average of \$253 on gaming at their local riverboats, for a total contribution of \$148 million. At greater distances, as indicated in the succeeding rows, the average individual spent less.³ Approximately six percent of total win originated with visitors from far outside the local region. Based on this analysis, we estimate that the average adult within ten miles spent \$360 on casino gaming over the past twelve months (more than the \$253 mentioned above due primarily to the fact that several "core" counties extend considerably more than ten miles from a riverboat docking site, and some are affected by competition from nearby boats not included here⁴). Approximately 77.5 percent of this was spent on gaming devices, or \$279 per year, overwhelmingly on traditional slot machines, and 22.5 percent on table games, or \$81 per year. In comparison with the other markets examined below, the level of spending on gaming machines appears fairly typical, while the spending on table games is rather low.

Some contrast is indicated by our analysis of riverboats elsewhere in Illinois (and in St. Louis, Missouri, which was initially served only by Illinois boats until Missouri also legalized such gaming). As indicated in Exhibit B-2, the aggregate adult population of the local areas where these riverboats dock amounts to nearly 2.1 million. These people each spent an average of about \$200 at these casinos in 1995, for a total contribution of \$415 million. "Other Illinois" provides a substantial contribution not only because of its large population, but because much of it (Cook and neighboring counties) is relatively close to the riverboat casinos at Aurora, Elgin, and Joliet.⁵ Estimating that five percent of the total came from

These elements are then weighted and aggregated to generate the summary statistics presented in these exhibits.

³ The "distance factors" estimated for these models are, technically, the "elasticities" of spending with respect to distance. Based upon survey data from several jurisdictions, rates of casino visitation appear to decline in proportion to about the 0.5 to 0.6 power of the distance to the casino, for distance factors of about -0.5 to -0.6. This is a relatively "long-distance" attraction; if you double the distance, visitation (and hence, we assume, spending) declines by only about 30 percent. For comparison, race tracks typically demonstrate distance factors of about -1.0 to -1.2; if you double the distance, attendance declines by 50 percent or more. Generically, this type of relationship is called a "gravity model," based upon its similarity to Newton's law of gravitation (for which the "distance factor" would be -2.0: if you double the distance, the attraction declines by a factor of four).

⁴ The *Miss Marquette*, to the north, and the *Catfish Bend* boat to the south, in particular.

⁵ Conversely, the contribution from Other Missouri, extending half-way to Kansas City, is relatively low because its "Distance and Income Factor" also includes a Competition Factor reflecting the fact that a few riverboat casinos offering "games of skill" began operating in the Kansas City area in the

more distant visitors, the residents of this four-state region spent roughly \$1.3 billion at these casinos in the past year. Adjusting for distance (and income⁶) factors, we estimate that the average adult who lived within ten miles spent about \$241 at the region's riverboat casinos over that period. Based upon the aggregate statistics for total casino win, approximately 68% of that was spent on slot machines and other gaming devices, or about \$165 per year, and 32% on table games.

While \$241 per capita is a substantial sum, it is lower than most other casino jurisdictions. This is because (a) this market is still "undersupplied," that is, in many areas (Chicago, in particular) the supply of casino space is not nearly equal to the demand for it, and (b) consumers are further deterred by restrictions on casino operations, in particular limitations on gaming while docked, and the necessity to conduct "pseudo-cruises" even in winter.

Other types of operating restrictions, such as Iowa's former limits on betting and buy-ins, also affect the market performance of casinos. That such betting restrictions alone can have significant impacts (although skewed in their effects) is indicated by the Colorado market. As depicted in Exhibit B-3, a similar analysis of that market, where \$5-limit casino gaming is permitted in only three small former mining towns,⁷ indicates that adult Coloradans spent an average of about \$351 at their casinos over the past twelve months. About 92% of this was spent on gaming devices, confirming (as Iowa found) that there is a limited market for \$5 table games. In our summary below, it will be seen that the Colorado machines attract spending at rates very similar to those in other slot markets, while spending on table games is much below average. Iowa's similar limits in the past discouraged investment and marketing approaches oriented toward table-game players, likely playing a role in the still below-average performance of its riverboat table games noted above.

The significance of market *supply* conditions, like those we described for Illinois, is further demonstrated by the experience of Mississippi. In calendar 1993, as indicated in Exhibit B-4, we estimate that the average adult within the region spent about \$244, on a "ten-mile adjusted" basis, at Mississippi's "riverboats" (which are nearly identical to land-

summer of 1994. Those operations then increased substantially following the approval of "games of chance" in November, 1994.

6 We assume, based upon regrettably fragmentary evidence, that for counties with per capita money incomes below \$17,000, casino spending declines with income with an elasticity of -0.5. We do not assume any increase in spending from higher-income counties.

7 Located, however, relatively close to Colorado's major centers of population.

based casinos, as many are located on permanently-docked barges and need never cruise). This figure is less than that for Colorado, despite the liberal conditions under which Mississippi casinos operate. However (particularly early in the year), these casinos were standing-room only -- so demand, as in the Chicago area, exceeded supply. In 1995, when supply had more than caught up with demand, so much so that some boat operators have begun to consider less intensely-cultivated pastures elsewhere and some have gone into bankruptcy, about \$1.7 billion was spent in Mississippi. This works out (Exhibit B-5) to a distance-adjusted figure of nearly \$550 per adult, the highest we have seen in non-Nevada U.S. jurisdictions to date.⁸

Other U.S. markets fall between these extremes. In Connecticut, the Mashantucket Pequots' Foxwoods casino has been a spectacular success, but is still somewhat capacity-constrained. Our distance-adjusted spending estimate is thus a relatively modest \$338 per adult (Exhibit B-6). The much more fully-supplied market of Atlantic City (Exhibit B-7), now much less capacity-constrained⁹ than in its early years, demonstrates annual spending from its major market areas of about \$415 per adult on a distance-adjusted basis.

We have also reviewed the experience of other new U.S. casino jurisdictions, including in particular Minnesota and Louisiana. For these markets, aggregate statistics are either not available or too reflective of immature conditions to provide useful benchmarks. In our opinion, however, their experience is consistent with the markets examined here.

In summary, in fully-supplied (non-capacity- or rules-constrained) markets in the U.S., casino gaming devices appear to attract \$250 to \$350 in annual spending per distance-adjusted adult ("within ten miles"), and high-limit casino table games approximately \$120 to \$150 per adult.

⁸ Nevada markets are exceptional both in terms of "maturity" and of the attractions they have developed to cultivate a truly worldwide market. Due to this world market, and to the fact that Nevada residents are to some extent a (self)-"selected" population biased toward gaming, Nevada spending ratios appear very high. We do not believe they will be representative of any other U.S. jurisdiction. Note also that for the more recent period, our Mississippi analysis has reduced the adult population for "Louisiana" very substantially to reflect the introduction of casinos to that state (riverboat, land-based, and Native American), as well as widespread video poker. The "Louisiana" figures shown in this exhibit represent only those counties immediately adjacent to Mississippi casino facilities.

⁹ But only in recent years relieved of regulatory restrictions regarding hours of operation, types of games, and space allocated to tables versus slots. Until 1994, it was also illegal for a casino employee to gamble at New Jersey's casinos, and the "Distance and Income" Factor for Atlantic County in this exhibit includes the estimated lingering impacts of that restriction.

Non-Casino Devices

We have also reviewed the experience of jurisdictions which permit gaming devices in non-casino locations. These are commonly referred to as "VLTs", "video lottery terminals," although they are not always operated by the state lottery, nor are they always video machines. Our analysis of the U.S. experience with video devices is presented in Exhibit B-8. (The jurisdictions listed in this exhibit also mandate that machines not pay off in coins or tokens, but rather in vouchers or credit slips which must be manually redeemed. Iowa, whose recent experience is reviewed later, has both non-video and coin-output machines. Other gaming devices are also legal on Maryland's Eastern Shore and in many counties in South Carolina, but reliable statistics regarding these machines are not available.)

In Montana and South Dakota, states with fewer restrictions on gaming devices (ten to twenty allowed per location, and a wide variety of types of games, including video facsimiles of spinning-reel games), annual per capita rates of spending reach \$300 or more, very similar to those of mature casino jurisdictions. In more restrictive states such as Louisiana and Oregon, only three to five devices are permitted at most locations, and these can *only* be video poker -- in particular, no "slot"-type machines are allowed. In these states, annual spending rates are about half as great, at \$140 to \$160 per adult. (In Louisiana, as well, these machines compete with full-scale casinos on riverboats at various locations, and one land-based Native American casino.)

Although video poker is a very significant and growing segment of the casino device market, its popularity and ability to generate revenue on a stand-alone basis have sometimes been exaggerated. These per capita spending statistics support the results of qualitative consumer research we have conducted in recent years which indicate that the overwhelming majority of gambling-machine customers prefer *slot* machines (with actual spinning reels), not video poker, or in fact, video games of any type. (Coin or token output is also strongly preferred.) This will be seen again in the experience with gaming devices at pari-mutuel facilities.

The experience with video/voucher output devices at race tracks is summarized in Exhibit B-9. Before Iowa (whose experience with *non-video*, coin-out machines is described below), three states had significant experience with gaming devices: West Virginia, Louisiana, and

Rhode Island.¹⁰ (The race tracks of Delaware have also been authorized to provide such VLTs, but with coin as well as voucher output. The first Delaware track VLT facility opened in late December, 1995.)

West Virginia was the first state to introduce a substantial number of race track VLTs, at Mountaineer Park. Approximately 80 terminals were introduced there on June 9, 1990. Their number was soon raised to about 165, but rather than being concentrated in one location, they were scattered in various spots around the facility. These machines were popular, but not wildly so. The track and lottery continually experimented with types of games, locations, prize structures, revenue allocation, and hours of operation. Performance improved incrementally; from about \$2.5 million in their first twelve months of operation, win rose to \$4.2 million in 1992 and to \$5.3 million in 1993. As indicated in Exhibit B-9, the latter figure amounted to about \$21 per adult residing within the track's local market area.¹¹

In the late summer of 1994, all the tracks of West Virginia were authorized (pending local approval, which one did not receive) to provide more substantial numbers of more attractive machines. While still prohibited from reel-type games, up to 400 machines were permitted at each location. These facilities opened around Labor Day, and have proved very popular. The annual rate of spending at Mountaineer Park more than doubled, and the other two tracks' VLT facilities attracted similar rates of spending. In late June, 1995, the three tracks all raised their numbers of machines to approximately 800 apiece, with further increases in revenue. (The figures reported in the exhibit therefore represent annual averages of about 600 machines per facility.)

In Louisiana, video poker machines are authorized by the state at restaurants, bars, truck stops, race tracks, and OTB facilities (these machines are regulated not by the state lottery but by the state police). Most locations are limited to a maximum of three machines, but "truck stops" are allowed 50 and the number at pari-mutuel facilities is not limited. Louisiana

-
- 10 In the "widespread VLT" states other than Louisiana, race tracks are treated like other liquor-licensed establishments and allowed to become VLT agents with the "standard" number of machines (five, ten, or twenty, depending on the state). These devices are reportedly popular, but due to their small numbers, and to competition from thousands of similarly-equipped establishments, they are not significant from a marketing or financial perspective.
 - 11 The small scale and limited attractiveness of the VLT experiments at race tracks have reportedly resulted in overwhelmingly "local" patronage to date. We have therefore calculated spending ratios only in comparison to the nearby population (within the same county and counties adjoining the facility; while distance factors may be significant even within such local markets, for simplicity we have not applied them in this analysis).

Downs, in Bossier City (Shreveport), introduced 540 machines on July 1, 1992; by the end of its race meeting that November, it had increased the number to 716.¹² They were then reduced to approximately 500, where their number remained until lower volumes of business following the opening of nearby riverboat casinos prompted another reduction in the spring of 1994, to 386.

While Louisiana Downs is somewhat exceptional among tracks in terms of the long-distance patrons it draws (from Texas; but their numbers have decreased since Texas authorized race tracks of its own), we estimate that the local portion of the \$11.2 million video poker win of 1993 translated, as shown in the middle of Exhibit B-9, into about \$41 per local adult. While almost as high as the more recent West Virginia ratios, it should be noted that this rate was achieved in competition with widespread video poker at local bars, restaurants, and truck stops.

In the spring of 1994, however, three riverboat casinos opened in rapid succession in Shreveport and Bossier City. With both table games and slot machines, these proved to be serious competition both for racing and video poker at Louisiana Downs. Racing attendance and handle declined 20 to 30 percent from the same months in the previous year, and video poker revenues by about 50 percent. Video poker alone (as opposed to a wider spectrum of devices) obviously cannot compete very successfully with the full range of games permitted at the riverboat casinos. We find it interesting, however, that despite such competition from full-scale casinos (the riverboats in this area need not cruise due to the shallow waterways involved), and the ongoing competition from video poker in bars and truck stops, it continued to generate substantial levels of annual win.

Video gaming devices have been operating at Rhode Island's two pari-mutuel facilities, Lincoln Greyhound Park and Newport Jai-Alai, since late in 1992. Lincoln introduced 166 video poker terminals on September 28 of that year, and rapidly increased their number over the following months. The types of machines and number of vendors were restricted by the state, however, and the financial results were not as positive as expected. By early 1993, machine revenues were running at an annual rate of about \$15 million. Since its pari-mutuel

12 The experience at the other tracks in Louisiana was similar, but reported results are complicated by the openings, at various times, of OTB facilities and riverboat casinos, and the closing of one of the two tracks in the New Orleans area. With no nearby OTB facilities, and the nearby riverboats opening in a group, Louisiana Downs provides in our opinion the clearest illustration of the Louisiana experience.

operations were undergoing a radical transformation at this time,¹³ the impacts of the VLTs on Lincoln's racing attendance and handle were (and remain) unclear. In early 1994, however, "reel-type" video slot machines were authorized by the state, and machine win increased substantially. (While handle and revenue figures are not available on a monthly basis, a chart of statewide monthly VLT "coin in" is presented in Exhibit B-10.)

Rhode Island's gross revenues, after prizes to players, are currently running at an annual rate of about \$71 million, which equates to approximately \$115 per adult within the local market areas of its two facilities. These levels are markedly superior to those of the more limited video operations at the tracks in West Virginia and Louisiana. Given the proximity of Foxwoods, we believe Rhode Island's experience is very significant. Though still without "real" reels, limited by voucher output (not cash), and modest expenditures on capital improvements and marketing, Lincoln Park and Newport Jai Alai are clearly drawing substantial numbers of machine customers and their spending to their facilities.

Iowa's new race track slot facilities have performed at an even higher level. As indicated in Exhibit B-11, through December of 1995 the Council Bluffs track's slot machines won at an annual rate of about \$157 million; we estimate this to be about \$289 per distance-adjusted adult in the market. (In January, two riverboat casinos opened; data for the first two months of this year indicate that total market spending has increased further, but the share going to the tracks' slots has declined.) Note in particular that these are "slot machines" only; no video games are allowed.¹⁴ Bluffs Run's slot facility was obviously capacity-constrained at peak periods. It alone won at a slightly higher rate than the \$147 million we projected for the market as a whole, including two anticipated riverboats, in a previous assessment we conducted for the Iowa Racing and Gaming Commission.¹⁵ In that study, we projected average spending of \$180 per person (man, woman and child), which is equivalent to about \$264 per adult. While there was likely some initial start-up effect at Bluffs Run as at Prairie Meadows,¹⁶ it is clear to us that the facility has been more competitive with the nearby

13 Lincoln had begun extensive simulcasting of horse racing late in 1991, and has since varied its simulcast and live schedule (generally with more simulcasting, and slightly less live racing). Like the other tracks in New England, it has also suffered substantial negative impacts from Foxwoods.

14 In crafting the enabling legislation, one state representative was particularly concerned that video games were "more addicting" than traditional slot machines, and succeeded in attaching an amendment prohibiting video games at Iowa's race tracks (although video gaming devices were and still are allowed on Iowa's riverboats).

15 Christiansen/Cummings Associates, Inc., Potential Casino Gaming Win (Revenues) from the Omaha/Council Bluffs Market, November 28, 1994.

16 High attendance (albeit with lower per capita wagering) is often observed at new gambling facilities in non-capacity-constrained situations, as demonstrated in particular by new race tracks. Casinos in new

Indian casinos than we expected in our 1994 study, and overall consumer spending has been higher. These coin-out, spinning-reel slot machines are clearly a very attractive product.

The Prairie Meadows slot facility at Altoona, Iowa (near Des Moines) won \$88.2 million from May through January, an annual rate of about \$117 million. As indicated in Exhibit B-12, this reflects an estimated rate of spending of about \$347 per distance-adjusted adult in its market, almost as high as the current rate for machines in Mississippi (\$385, from Exhibit B-5). We expect this rate to recede somewhat over the long term, if supply and operating conditions remain unchanged.¹⁷ It is in our opinion likely that the "normal" start-up surge has been compounded here by the prominence of the facility in the minds of Polk County taxpayers¹⁸ and its location near Des Moines at the hub of Iowa's transportation networks, likely drawing more visitors from greater distances than will be maintained over the long run.

The Iowa coin-out, "traditional" slot-machine race track facilities are attracting spending at annual rates of \$290 to \$350 per local adult per year, or two to three times the best race track video/voucher-out facilities (those in Rhode Island, at about \$115 per local adult per year). While the Iowa tracks' Indian casino competition is not quite so close nor so overwhelming as Foxwoods is for Lincoln, we believe that the relative levels of business at the Iowa, Rhode Island, and other race track VLT facilities demonstrate quite clearly where the preferences of the American public lie.

Conclusions

Exhibit B-13 summarizes our analyses of the most relevant casino and device markets. There is a considerable range of variation in the distance-adjusted spending figures. As we have described, much of this variation appears due to the relative "supply" and competitive

markets have not often exhibited such initial trends because the demand for their games has far exceeded the supply; that is, the "normal" ongoing demand (let alone any higher initial surge) has typically been far above the capacity of the first casino(s) to open in the market.

- 17 As it already has somewhat, from an initial annual rate of about \$128 million from April through August, 1995. Of course, seasonal factors (most consumer leisure businesses peak in the summer) are probably at work, too.
- 18 The Prairie Meadows race track was built with county-backed debt. After a disastrous first racing season in 1989, the track defaulted, was taken over by the county, and it continued to operate while subsidized (with great political anguish) with taxpayers' money. The citizens of Polk County vigorously supported the referendum to allow gaming devices at the track, and raised an additional \$23 million in county funds to renovate and equip the facility for slot operations.

conditions of each market. In less-mature markets, the supply of casinos (or devices) is typically far below the demand for them, and spending per person appears low because it is "capacity-constrained," that is, there are times when not everyone can get on the boat or into the casino. This was the case in Illinois (as a whole), at Foxwoods, and in Mississippi (again, as a whole) in 1993. In Atlantic City, however, and today in Mississippi, the supply of casino games and devices comes much closer to matching the demand, and consequently, annual spending is rather high.

A second major set of factors determining attractiveness to the consumer, and thus spending, involves constraints on gaming, such as betting limits, short hours of operation, and mandated cruising for riverboats. In Colorado today, there is a \$5 betting limit, as there was in Iowa until 1994, and spending on table games is very low. In Louisiana, only video poker machines are allowed as VLTs, and in Oregon only a limited number of them have been installed, resulting in much lower spending than in the "wide-open" VLT states of Montana and South Dakota. In Illinois, riverboats must cruise, reducing their revenues compared to those in Mississippi where they need not. Conversely, in Atlantic City and Mississippi, (relatively) liberal tax rates and regulatory policies have encouraged intensive casino construction and marketing efforts which have prompted relatively high rates of spending from their surrounding areas. Mississippi, in addition, draws from a four-state region (including itself, Tennessee, Alabama, and Arkansas) in which there are no state lotteries and limited legal gambling alternatives. Spending from its market area is therefore high. The performance of VLTs in different states, and particularly the experiences of race tracks in other states with gaming devices, also indicate that supply considerations and "casino-like" conditions of play are major factors in the rates of spending they attract from consumers.

In our opinion, the experience with gaming devices at the race tracks of West Virginia, Louisiana, Rhode Island, and Iowa has demonstrated a great deal regarding public appetites for such machines and the most effective ways to provide them. Incorporating some additional insights from casino experience, we believe the most important lessons include:

- Video poker, while an attractive product, is not as attractive as "slot" (reel) machines -- and so far, actual spinning reels appear more popular than video facsimiles of them.
- More generally, the public prefers a broad spectrum of machines, including video facsimiles of other games of chance. Limits on the types of machines allowed will therefore limit potential revenues, as even Iowa will likely experience at some point in the future.

- Customers prefer machine output to be in coins or tokens rather than vouchers, and also want a diversity of denominations (five cents to five dollars, or more) to suit their budgets.
- There appears to be a “critical mass” phenomenon; large numbers of machines appear more attractive than small numbers -- more choices for the consumer, and a greater sensation of “action.” The West Virginia and Louisiana tracks have found that small numbers of machines, scattered in various locations around the track, are not very attractive.
- Revenue maximization requires flexibility and responsiveness to the marketplace. The productivity of different types of machines, hours of operation, takeout rates, promotions, and ancillary amenities likely differ from market to market and time to time, and thus should *not* be cast in stone in enabling legislation or regulation.
- The Rhode Island and Louisiana tracks, while handicapped (particularly in Louisiana) by restricted types of machines, have proved that it is still possible to compete with nearby casinos for machine customers' spending.

In sum, the greater the similarity to casino-style machine operation, the greater has been the similarity to casino-style machine results.

In order to develop our projections for Massachusetts, we have extracted from the broader range of experience a set of markets we believe most comparable to the scenarios proposed for this State. These are indicated in Exhibit B-14. Distance-adjusted gaming-device spending averages \$324 per adult in these markets, in 1996 dollars, and spending on table games, \$141. We believe there is a longer-term trend favoring devices over table games,¹⁹ and our projections for the Commonwealth have therefore assumed annual rates of \$330 for machines and \$130 for table games. At race tracks, we estimate that a full spectrum of gaming devices, not significantly limited by type or hours of operation, would attract about 80 percent as much as full-casino devices, or \$264 per local adult per year.²⁰ We have applied these rates to the populations surrounding the facilities proposed for Massachusetts under the various scenarios, and adjusted for distance, income, and competitive

19 Craps, in particular, has seen its market share decline rapidly. Like betting on the races, craps appears to be too complicated, intimidating, and elderly-male-dominated to attract many new players today.

20 Despite the strong performance of such devices at Iowa's tracks, we expect that in most other markets race track machines will operate at a slight disadvantage to full-casino machines. This is because some machine players also play table games, or probably of greater import, their spouses or boyfriends play table games, so they would prefer (other things, such as distance, being equal) to visit a full casino. To potential criticism that more glamorous full-scale casinos would “obviously” draw much more machine business than otherwise similar facilities limited to machines, we would observe that the “locals”-oriented casinos of Nevada (those catering primarily to local residents rather than to visitors from other states) are overwhelmingly slot- rather than table-oriented, conscientiously casual in style rather than glitzy, and, by reputation, draw much more local business than the Las Vegas Strip showplaces. We believe the parallel is appropriate for Massachusetts.

factors, to develop the projections for casino and gaming-device win described in Chapter 7 of the main body of this report.



***Massachusetts Residents Survey
to Assess Interest
in Proposed New Gambling Options***

Attachment A

Impact of Respondent Characteristics on Survey Responses

June 27, 1996

HARTFORD • NEW YORK • BOSTON

255 Main Street • Hartford, Connecticut 06106 • 203/549-6770 • FAX 203/293-2674

Responses by Gender

Massachusetts Gaming Study

**Participation in Gambling Activities
By Gender**

	All respondents	Gender	
		Male	Female
(Base).....	(1000)	(480)	(520)
MA Lottery			
Ever.....	79%	81%	77%
Past 6 Months.....	62%	64%	61%
Casinos			
Ever*.....	43%	46%	40%
Past Year*.....	22%	25%	20%
Horse Racing			
Ever.....	17%	16%	17%
Past Year.....	4%	5%	4%
Greyhound Racing			
Ever.....	23%	25%	22%
Past Year*.....	7%	9%	5%
Charitable Gaming			
Ever*.....	22%	18%	25%
Past Year.....	11%	9%	12%

* The differences between males and females are statistically significant at the .05 level.

**Massachusetts Gaming Study
Lottery Participation
By Gender**

	All respondents	Gender	
		Male	Female
Played Lotto			
(Base).....	(1000)	(480)	(520)
Ever.....	59%	61%	57%
Past 6 Months.....	54%	57%	52%
Mean per month			
(all respondents).....	\$7.42	\$7.72	\$7.14
(Base).....	(992)	(475)	(517)
Mean per month			
(players only).....	\$13.73	\$13.73	\$13.72
(Base).....	(536)	(267)	(269)
Played Instant			
(Base).....	(1000)	(480)	(520)
Ever.....	53%	54%	52%
Past 6 Months.....	49%	50%	48%
Mean per month			
(all respondents).....	\$7.78	\$8.80	\$6.85
(Base).....	(991)	(473)	(518)
Mean per month (players only).....	\$15.96	\$17.78	\$14.24
(Base).....	(483)	(234)	(249)
Played Numbers			
(Base).....	(998)	(478)	(520)
Ever.....	33%	33%	33%
Past 6 Months.....	24%	23%	25%
Mean per month			
(all respondents).....	\$3.91	\$4.35	\$3.50
(Base).....	(996)	(478)	(518)
Mean per month			
(players only).....	\$16.49	\$18.89	\$14.39
(Base).....	(236)	(110)	(126)
Played Keno			
(Base).....	(999)	(480)	(519)
Ever*.....	20%	24%	16%
Past 6 Months*.....	14%	18%	11%
Mean per month			
(all respondents).....	\$2.37	\$3.15	\$1.65
(Base).....	(997)	(478)	(519)
Mean per month			
(players only).....	\$16.74	\$17.90	\$15.02
(Base).....	(141)	(84)	(57)

* The differences between males and females are statistically significant at the .05 level.

Massachusetts Gaming Study

Awareness of Possible Casinos*
By Gender

	All respondents	Gender	
		Male	Female
(Base)	(994)	(479)	(515)
Aware, know both locations.....	4%	6%	2%
Aware, know New Bedford location.....	34%	38%	29%
Aware, know Western MA location.....	10%	11%	9%
Aware, don't know location.....	22%	21%	24%
Not aware at all.....	31%	24%	37%

* The differences between males and females are statistically significant at the .05 level.

Massachusetts Gaming Study

SCENARIO #1 (New Bedford Casino Only)
By Gender

	All respondents	Gender	
		Male	Female
Likelihood of Going To New Bedford Casino*			
(Base)	(993)	(479)	(514)
Very likely.....	19%	24%	15%
Somewhat likely.....	15%	16%	15%
Not too likely.....	15%	15%	14%
Not at all likely.....	51%	45%	56%
Number of Days Visit in First Year			
All respondents.....	2.44	3.16	1.79
(Base)	(981)	(469)	(512)
Attendees only.....	7.42	8.23	6.41
(Base)	(323)	(180)	(143)
Average Amount Take to Play			
All respondents*.....	\$63.86	\$93.18	\$37.04
(Base)	(990)	(473)	(517)
Attendees only*.....	\$190.43	\$239.53	\$129.40
(Base)	(332)	(184)	(148)

* The differences between males and females are statistically significant at the .05 level.

Massachusetts Gaming Study

SCENARIO #2 (New Bedford & Western MA Casino)
By Gender

	All respondents	Gender	
		Male	Female
Where Likely to Go*			
(Base)	(980)	(469)	(511)
Both casinos.....	9%	11%	7%
New Bedford Only.....	19%	22%	17%
Western MA Only.....	9%	11%	8%
Neither.....	62%	56%	68%
 Impact on Time at Casinos			
By Adding Western MA			
All Respondents*			
(Base)	(980)	(466)	(514)
Go to both, more total days.....	6%	8%	4%
Only go to Western MA casino.....	9%	11%	8%
Go to both, same total days.....	3%	3%	2%
Only go to New Bedford casino.....	19%	22%	17%
Not go to either casino..	63%	57%	68%
 Casino Attendees Only			
(Base)	(364)	(200)	(164)
Go to both, more total days.....	16%	18%	14%
Only go to Western MA casino.....	26%	25%	26%
Go to both, same total days.....	7%	7%	7%
Only go to New Bedford casino.....	52%	51%	52%
 Number of days at MA Casinos			
All respondents.....	3.54	4.58	2.60
(Base)	(960)	(457)	(503)
Attendees only.....	9.92	10.96	8.61
(Base)	(343)	(191)	(152)

* The differences between males and females are statistically significant at the .05 level.

Massachusetts Gaming Study

**SCENARIO #3 (New Bedford & EGDS)
By Gender**

	All respondents	Gender	
		Male	Female
Likely Participation*			
(Base)	(992)	(479)	(513)
New Bedford Only.....	23%	28%	19%
New Bedford & EGDS.....	11%	12%	10%
EGDs Only.....	3%	2%	4%
Neither.....	63%	58%	67%
Extent of EGD Participation			
All Respondents			
Number of Days (mean)....	1.41	1.64	1.20
(Base)	(995)	(478)	(517)
Average Amount take to			
Play (mean).....	\$15.70	\$15.61	\$15.78
(Base)	(995)	(476)	(519)
Attendees Only			
Number Days Expect to			
Visit in First Year.....	10.69	12.03	9.36
(Base)	(131)	(65)	(66)
Average Amount Take to			
Play.....	\$119.24	\$117.94	\$120.44
(Base)	(131)	(63)	(68)
Impact of EGD Participation on New Bedford Casino			
(Base)	(100)	(54)	(46)
In addition to New			
Bedford casino visits...	74%	78%	70%
Instead of New Bedford			
casino visits.....	26%	22%	30%

* The differences between males and females are statistically significant at the .05 level.

Massachusetts Gaming Study

**Scenario #4 (New Bedford/Hampton County Casinos and EGDs)*
By Gender**

	All respondents	Gender	
		Male	Female
(Base)	(980)	(469)	(511)
Nothing.....	59%	54%	64%
New Bedford Only.....	13%	16%	11%
Western MA Only.....	9%	10%	7%
Both Casinos.....	5%	7%	5%
New Bedford Casino & EGDs	6%	6%	6%
EGDs Only.....	3%	2%	3%
Both Casinos & EGDs.....	4%	4%	3%
Western MA Casino & EGDs.	1%	0%	1%

* The differences between males and females are statistically significant at the .05 level.

Massachusetts Gaming Study

**Impact of Scenarios on Any Lottery Participation
By Gender**

	All respondents	Gender	
		Male	Female
Percentage of Respondents Who Would Play Any Lottery Game Less Often Under Each Scenario			
Scenario #1.....	4%	5%	3%
(Base).....	599	300	299
Scenario #2.....	5%	6%	3%
(Base).....	598	299	299
Scenario #3.....	5%	6%	3%
(Base).....	598	299	299
Scenario #4.....	6%	8%	4%
(Base).....	598	299	299

Responses by Age

Massachusetts Gaming Study

**Participation in Gambling Activities
By Age**

	18-24	25-34	35-44	45-54	55-64	65+
Base.....	84	268	265	157	109	110
MA Lottery						
Ever*.....	69%	83%	84%	78%	86%	65%
Past 6 Months*.....	58%	64%	66%	62%	70%	47%
Casinos						
Ever*.....	36%	42%	50%	46%	42%	33%
Past Year.....	23%	23%	23%	22%	28%	15%
Horse Racing						
Ever.....	8%	15%	17%	20%	17%	18%
Past Year.....	5%	4%	4%	4%	4%	5%
Greyhound Racing						
Ever.....	19%	26%	26%	25%	21%	15%
Past Year.....	12%	8%	9%	4%	5%	4%
Charitable Gaming						
Ever*.....	15%	16%	27%	29%	24%	18%
Past Year.....	15%	7%	12%	13%	8%	10%

* The differences between age groups are statistically significant at the .05 level.

Massachusetts Gaming Study

**Lottery Participation
By Age**

	18-24	25-34	35-44	45-54	55-64	65+
Played Lotto						
(Base).....	(84)	(268)	(265)	(157)	(109)	(110)
Ever*.....	48%	61%	63%	60%	63%	46%
Past 6 Months*.....	42%	57%	59%	57%	61%	41%
Mean per month						
(all respondents).....	\$3.30	\$8.22	\$7.58	\$8.73	\$8.34	\$5.90
(Base).....	(84)	(266)	(263)	(157)	(107)	(108)
Mean per month						
(players only).....	\$7.91	\$14.67	\$12.95	\$15.23	\$13.72	\$14.81
(Base).....	(35)	(149)	(154)	(90)	(65)	(43)
Played Instant						
(Base).....	(84)	(268)	(265)	(157)	(109)	(110)
Ever*.....	56%	57%	59%	49%	53%	34%
Past 6 Months*.....	56%	53%	55%	46%	50%	30%
Mean per month						
(all respondents)*.....	\$16.57	\$6.50	\$10.33	\$5.04	\$7.49	\$2.61
(Base).....	(84)	(265)	(262)	(157)	(109)	(107)
Mean per month						
(players only)*.....	\$29.62	\$12.49	\$19.06	\$11.00	\$15.11	\$9.30
(Base).....	(47)	(138)	(142)	(72)	(54)	(30)
Played Numbers						
(Base).....	(84)	(268)	(263)	(157)	(109)	(110)
Ever*.....	26%	35%	39%	33%	39%	21%
Past 6 Months*.....	23%	23%	28%	27%	28%	13%
Mean per month						
(all respondents).....	\$1.69	\$3.22	\$4.51	\$5.38	\$5.05	\$2.86
(Base).....	(84)	(268)	(263)	(157)	(108)	(109)
Mean per month						
(players only).....	\$7.47	\$14.13	\$16.69	\$20.12	\$18.17	\$24.00
(Base).....	(19)	(61)	(71)	(42)	(30)	(13)
Played Keno						
(Base).....	(84)	(268)	(265)	(157)	(109)	(109)
Ever*.....	29%	20%	26%	18%	15%	6%
Past 6 Months*.....	21%	12%	22%	13%	8%	5%
Mean per month						
(all respondents).....	\$3.44	\$2.00	\$3.95	\$1.45	\$2.05	\$.43
(Base).....	(84)	(268)	(264)	(155)	(109)	(110)
Mean per month						
(players only).....	\$16.06	\$16.21	\$18.61	\$1.79	\$24.78	\$7.83
(Base).....	(18)	(33)	(56)	(19)	(9)	(6)

* The differences between age groups are statistically significant at the .05 level.

Massachusetts Gaming Study

Awareness of Possible Casinos*
By Age

	18-24	25-34	35-44	45-54	55-64	65+
(Base).....	(84)	(266)	(263)	(155)	(109)	(110)
Not aware at all.....	56%	41%	25%	21%	19%	25%
Aware, don't know location.....	24%	17%	24%	23%	24%	28%
Aware, know both locations.....	2%	2%	5%	6%	4%	5%
Aware, know New Bedford location.....	12%	32%	37%	38%	42%	33%
Aware, know Western MA location.....	6%	9%	10%	12%	11%	10%

* The differences between age groups are statistically significant at the .05 level.

Massachusetts Gaming Study

SCENARIO #1 (New Bedford Casino Only)
By Age

	18-24	25-34	35-44	45-54	55-64	65+
Likelihood of Going To New Bedford Casino*						
(Base).....	(84)	(266)	(264)	(155)	(107)	(110)
Very likely.....	27%	23%	19%	16%	21%	8%
Somewhat likely.....	32%	17%	17%	12%	7%	9%
Not too likely.....	14%	17%	17%	15%	16%	3%
Not at all likely.....	26%	44%	48%	56%	55%	80%
Number of Days Visit in First Year						
All respondents.....	3.67	3.36	2.16	1.66	2.32	1.34
(Base).....	(81)	(266)	(258)	(156)	(105)	(108)
Attendees only.....	6.32	8.77	6.41	6.02	9.04	8.53
(Base).....	(47)	(102)	(87)	(43)	(27)	(17)
Average Amount Take to Play						
All respondents*.....	\$108.1	\$78.59	\$74.47	\$34.45	\$56.67	\$21.57
(Base).....	(82)	(267)	(263)	(155)	(108)	(108)
Attendees only.....	\$184.7	\$203.7	\$212.9	\$127.1	\$204.0	\$137.1
(Base).....	(48)	(103)	(92)	(42)	(30)	(17)

* The differences between age groups are statistically significant at the .05 level.

Massachusetts Gaming Study

SCENARIO #2 (New Bedford & Western MA Casino)
By Age

	Age					
	18-24	25-34	35-44	45-54	55-64	65+
Where Likely to Go*						
(Base).....	(84)	(262)	(259)	(155)	(104)	(109)
Both casinos.....	15%	10%	10%	8%	7%	6%
New Bedford Only.....	32%	23%	19%	15%	16%	10%
Western MA Only.....	20%	10%	10%	8%	10%	3%
Neither.....	32%	58%	61%	68%	67%	82%
Impact on Time at Casinos						
By Adding Western MA						
All Respondents*						
(Base).....	(83)	(261)	(260)	(155)	(105)	(109)
Go to both, more total days.....	13%	6%	6%	5%	4%	4%
Only go to Western MA casino.....	20%	10%	10%	8%	10%	3%
Go to both, same total days.....	1%	3%	3%	3%	2%	2%
Only go to New Bedford casino.....	33%	23%	19%	15%	16%	10%
Not go to either casino..	33%	59%	62%	69%	69%	82%
Casino Attendees Only						
(Base).....	(56)	(108)	(99)	(48)	(33)	(20)
Go to both, more total days.....	20%	14%	16%	17%	12%	20%
Only go to Western MA casino.....	30%	24%	25%	25%	30%	15%
Go to both, same total days.....	2%	7%	8%	8%	6%	10%
Only go to New Bedford casino.....	48%	55%	51%	50%	52%	55%
Number of days at MA casinos						
All respondents.....	4.78	4.22	3.81	2.03	2.63	3.64
(Base).....	(80)	(259)	(253)	(152)	(102)	(107)
Attendees only.....	7.21	10.40	10.47	6.84	8.93	21.67
(Base).....	(53)	(105)	(92)	(45)	(30)	(18)

* The differences between age groups are statistically significant at the .05 level.

Massachusetts Gaming Study

SCENARIO #3 (New Bedford & EGDs)
By Age

	18-24	25-34	35-44	45-54	55-64	65+
Likely Participation*						
(Base)	84	265	264	155	107	110
New Bedford Only.....	36%	26%	25%	21%	22%	12%
New Bedford & EGDs.....	24%	13%	11%	7%	7%	5%
EGDs Only.....	4%	4%	2%	3%	5%	1%
Neither.....	37%	57%	62%	69%	66%	82%
 Extent of EGD Participation						
All Respondents						
Number of Days (mean)....	1.82	1.18	1.83	.46	1.09	2.41
(Base)	(83)	(268)	(264)	(157)	(107)	(109)
Average Amount take to						
Play (mean).....	\$31.93	\$18.90	\$11.54	\$10.86	\$24.21	\$5.18
(Base)	(83)	(267)	(263)	(157)	(108)	(110)
Attendees Only						
Number of Days (mean)*....	6.86	7.00	14.61	4.80	11.70	43.83
(Base)	(22)	(45)	(33)	(15)	(10)	(6)
Average Amount Take to						
Play.....	\$120.5	\$114.7	\$94.84	\$113.7	\$237.7	\$81.43
(Base)	(22)	(44)	(32)	(15)	(11)	(7)
 Impact of EGD Participation on New Bedford Casino						
(Base)	(20)	(34)	(25)	(11)	(5)	(5)
In addition to New Bedford casino visits...	85%	76%	76%	36%	100%	60%
Instead of New Bedford casino visits.....	15%	24%	24%	64%	0%	40%

* The differences between age groups are statistically significant at the .05 level.

Massachusetts Gaming Study

**SCENARIO #4 (New Bedford/Hampton County Casinos and EGDs)*
By Age**

	Age					
	18-24	25-34	35-44	45-54	55-64	65+
(Base).....	(84)	(262)	(259)	(155)	(104)	(109)
Nothing.....	29%	54%	59%	66%	63%	81%
New Bedford Only.....	18%	15%	14%	10%	13%	8%
Western MA Only.....	19%	10%	8%	7%	9%	3%
Both Casinos.....	7%	6%	6%	8%	4%	2%
EGDs Only.....	4%	4%	2%	3%	4%	1%
Both Casinos & EGDs.....	10%	4%	3%	1%	2%	4%
New Bedford Casino & EGDs	13%	8%	5%	6%	4%	2%
Western MA Casino & EGDs.	1%	0%	2%	1%	1%	0%

* The differences between age groups are statistically significant at the .05 level.

Massachusetts Gaming Study

**Impact of Scenarios on Any Lottery Participation
By Age**

<i>Respondent</i> Percentage of Respondents Who Would Play Any Lottery Game Less Often Under Each Scenario	Age					
	18-24	25-34	35-44	45-54	55-64	65+
Scenario #1*..... (Base).....	15% (48)	4% (169)	1% (167)	3% (94)	5% (74)	4% (47)
Scenario #2*..... (Base).....	17% (48)	4% (168)	1% (167)	4% (94)	7% (74)	4% (47)
Scenario #3*..... (Base).....	17% (48)	5% (169)	2% (167)	4% (94)	5% (73)	4% (47)
Scenario #4*..... (Base).....	21% (48)	5% (169)	2% (167)	5% (94)	8% (73)	4% (47)

* The differences between age groups are statistically significant at the .05 level.

Responses by Highest Level of Education

Massachusetts Gaming Study

**Participation in Gambling Activities
By Highest Level of Education**

	High school or less	Technical school/some college	College graduate	Graduate degree
(Base)	(292)	(247)	(267)	(186)
MA Lottery				
Ever*.....	85%	86%	78%	63%
Past 6 Months*.....	72%	70%	60%	42%
Casinos				
Ever.....	42%	42%	44%	44%
Past Year.....	27%	23%	20%	17%
Horse Racing				
Ever.....	15%	19%	18%	13%
Past Year.....	5%	5%	4%	2%
Greyhound Racing				
Ever.....	24%	26%	25%	17%
Past Year.....	8%	9%	6%	5%
Charitable Gaming				
Ever*.....	24%	27%	21%	14%
Past Year*.....	15%	14%	7%	4%

* The differences between levels of education are statistically significant at the .05 level.

**Massachusetts Gaming Study
Lottery Participation
By Highest Level of Education**

	High school or less	Technical school/some college	College graduate	Graduate degree
Played Lotto				
(Base).....	(292)	(247)	(267)	(186)
Ever*.....	68%	67%	56%	38%
Past 6 Months*.....	63%	62%	52%	34%
Mean per month				
(all respondents)*.....	\$12.39	\$7.48	\$5.76	\$2.30
(Base).....	(288)	(244)	(267)	(186)
Mean per month				
(players only).....	\$19.82	\$12.08	\$11.06	\$6.67
(Base).....	(180)	(151)	(139)	(64)
Played Instant				
(Base).....	(292)	(247)	(267)	(186)
Ever*.....	63%	62%	47%	35%
Past 6 Months*.....	59%	58%	43%	32%
Mean per month				
(all respondents)*.....	\$11.19	\$6.76	\$9.31	\$1.91
(Base).....	(287)	(245)	(267)	(185)
Mean per month				
(players only)*.....	\$19.12	\$11.75	\$21.43	\$6.09
(Base).....	(168)	(141)	(116)	(58)
Played Numbers				
(Base).....	(292)	(246)	(266)	(186)
Ever*.....	43%	40%	28%	17%
Past 6 Months*.....	35%	28%	18%	11%
Mean per month				
(all respondents)*.....	\$7.57	\$3.38	\$2.63	\$.83
(Base).....	(291)	(246)	(267)	(185)
Mean per month				
(players only)*.....	\$21.81	\$12.04	\$14.96	\$8.11
(Base).....	(101)	(69)	(47)	(19)
Played Keno				
(Base).....	292	247	267	185
Ever*.....	22%	28%	16%	10%
Past 6 Months*.....	16%	20%	13%	6%
Mean per month				
(all respondents).....	\$2.47	\$4.08	\$1.64	\$1.05
(Base).....	(291)	(247)	(267)	(185)
Mean per month				
(players only).....	\$15.63	\$20.55	\$12.54	\$17.73
(Base).....	(46)	(49)	(35)	(11)

* The differences between levels of education are statistically significant at the .05 level.

Massachusetts Gaming Study

**Impact of Scenarios on Any Lottery Participation
By Highest Level of Education**

	High school or less	Technical school/some college	College graduate	Graduate degree
Percentage of Presondents Who Would Play Any Lottery Game Less Often Under Each Scenario				
Scenario #1.....				
(Base).....	6% (202)	3% (168)	2% (150)	5% (76)
Scenario #2.....	7% (201)	3% (168)	3% (150)	5% (76)
Scenario #3.....	7% (201)	5% (168)	2% (150)	5% (76)
Scenario #4*.....	9% (201)	5% (168)	3% (150)	5% (76)

* The differences between levels of education are statistically significant at the .05 level.

Massachusetts Gaming Study

**Lottery Participation
By Household Income**

	Under \$25,000	\$25,000- \$35,000	\$35,000- \$50,000	\$50,000- \$75,000	Over \$75,000
Played Lotto					
(Base)	(189)	(125)	(211)	(178)	(130)
Ever*.....	50%	65%	65%	65%	58%
Past 6 Months*.....	46%	62%	61%	60%	53%
Mean per month					
(all respondents).....	\$10.00	\$7.90	\$7.54	\$7.80	\$6.14
(Base)	(187)	(124)	(211)	(176)	(130)
Mean per month					
(players only).....	\$22.00	\$12.89	\$12.42	\$13.08	\$11.57
(Base)	(85)	(76)	(128)	(105)	(69)
Played Instant					
(Base)	(189)	(125)	(211)	(178)	(130)
Ever*.....	47%	65%	58%	59%	49%
Past 6 Months*.....	45%	61%	54%	53%	46%
Mean per month					
(all respondents).....	\$7.18	\$12.24	\$7.20	\$7.72	\$10.19
(Base)	(187)	(123)	(210)	(177)	(130)
Mean per month					
(players only).....	\$16.18	\$20.34	\$13.50	\$14.54	\$22.08
(Base)	(83)	(74)	(112)	(94)	(60)
Played Numbers					
(Base)	189	125	210	178	129
Ever*.....	30%	46%	40%	38%	26%
Past 6 Months*.....	22%	37%	25%	28%	15%
Mean per month					
(all respondents).....	\$3.92	\$6.21	\$4.88	\$4.60	\$1.97
(Base)	(189)	(125)	(209)	(178)	(130)
Mean per month					
(players only).....	\$18.05	\$16.87	\$19.98	\$16.38	\$12.80
(Base)	(41)	(46)	(51)	(50)	(20)
Played Keno					
(Base)	(189)	(125)	(211)	(178)	(130)
Ever*.....	16%	30%	19%	26%	20%
Past 6 Months*.....	13%	22%	14%	20%	11%
Mean per month					
(all respondents).....	\$1.81	\$3.42	\$3.12	\$1.98	\$3.72
(Base)	(189)	(125)	(210)	(177)	(130)
Mean per month					
(players only).....	\$13.68	\$15.81	\$22.62	\$10.00	\$34.57
(Base)	(25)	(27)	(29)	(35)	(14)

* The differences between income levels are statistically significant at the .05 level.

Massachusetts Gaming Study

**Awareness of Possible Casinos
By Household Income**

	Under \$25,000	\$25,000- \$35,000	\$35,000- \$50,000	\$50,000- \$75,000	Over \$75,000
(Base).....	(188)	(125)	(208)	(178)	(129)
Not aware at all.....	49%	35%	26%	19%	19%
Aware, don't know location.....	20%	20%	21%	28%	21%
Aware, know both locations.....	1%	2%	4%	6%	7%
Aware, know New Bedford location.....	16%	31%	39%	40%	47%
Aware, know Western MA location.....	14%	12%	10%	8%	7%

* The differences between income levels are statistically significant at the .05 level.

Massachusetts Gaming Study

SCENARIO #1 (New Bedford Casino Only)
By Household Income

	Under \$25,000	\$25,000- \$35,000	\$35,000- \$50,000	\$50,000- \$75,000	Over \$75,000
Likelihood of Going To New Bedford Casino					
(Base).....	(187)	(123)	(209)	(178)	(130)
Very likely.....	16%	24%	20%	24%	20%
Somewhat likely.....	17%	19%	16%	13%	18%
Not too likely.....	15%	9%	16%	18%	16%
Not at all likely.....	53%	48%	48%	46%	46%
Number of Days Visit in First Year					
All respondents.....	2.01	3.00	2.23	4.30	1.74
(Base).....	(183)	(120)	(210)	(176)	(129)
Attendees only.....	6.80	7.50	6.25	12.00	4.67
(Base).....	(54)	(48)	(75)	(63)	(48)
Average Amount Take to Play					
All respondents.....	\$51.12	\$79.33	\$61.17	\$82.92	\$93.77
(Base).....	(186)	(125)	(209)	(178)	(130)
Attendees only.....	\$166.81	\$187.09	\$172.77	\$227.08	\$248.78
(Base).....	(57)	(53)	(74)	(65)	(49)

Massachusetts Gaming Study

SCENARIO #2 (New Bedford & Western MA Casino)
By Household Income

	Under \$25,000	\$25,000- \$35,000	\$35,000- \$50,000	\$50,000- \$75,000	Over \$75,000
Where Likely to Go*					
(Base).....	(185)	(121)	(205)	(176)	(127)
Both casinos.....	9%	5%	10%	10%	14%
New Bedford Only.....	15%	30%	20%	23%	18%
Western MA Only.....	12%	14%	11%	6%	7%
Neither.....	64%	51%	60%	61%	61%
 Impact on Time at Casinos					
By Adding Western MA					
All Respondents*					
(Base).....	(186)	(123)	(204)	(174)	(127)
Go to both, more total days.....	5%	5%	6%	7%	9%
Only go to Western MA casino.....	12%	14%	11%	6%	7%
Go to both, same total days.....	3%	0%	3%	1%	5%
Only go to New Bedford casino.....	15%	29%	20%	23%	18%
Not go to either casino..	65%	52%	60%	62%	61%
 Casino Attendees Only*					
(Base).....	(66)	(59)	(81)	(66)	(49)
Go to both, more total days.....	15%	10%	15%	20%	22%
Only go to Western MA casino.....	35%	29%	27%	17%	18%
Go to both, same total days.....	9%	0%	7%	3%	12%
Only go to New Bedford casino.....	41%	61%	51%	61%	47%
 Number of days at MA casinos					
All respondents.....	4.93	4.65	3.20	4.61	1.94
(Base).....	(180)	(119)	(201)	(171)	(126)
Attendees only.....	14.78	10.24	8.26	12.51	5.10
(Base).....	(60)	(54)	(78)	(63)	(48)

* The differences between income levels are statistically significant at the .05 level.

Massachusetts Gaming Study

**Impact of Scenarios on Any Lottery Participation
By Income**

	Under \$25,000	\$25,000- \$35,000	\$35,000- \$50,000	\$50,000- \$75,000	Over \$75,000
Percentage of Respondents Who Would Play Any Lottery Game Less Often Under Each Scenario					
Scenario #1*..... (Base).....	7% (98)	8% (87)	2% (139)	2% (119)	1% (75)
Scenario #2*..... (Base).....	10% (98)	8% (87)	2% (138)	3% (119)	1% (75)
Scenario #3*..... (Base).....	10% (98)	8% (87)	3% (139)	3% (119)	1% (75)
Scenario #4*..... (Base).....	13% (98)	8% (87)	3% (139)	3% (119)	1% (75)

* The differences between income levels are statistically significant at the .05 level.

Responses by Region

Massachusetts Gaming Study

**Participation in Gambling Activities
By Region**

	Statewide	Western MA	South- eastern MA	Greater Boston
(Base)	(1000)	(249)	(192)	(559)
MA Lottery				
Ever.....	79%	81%	83%	77%
Past 6 Months*.....	62%	63%	70%	59%
Casinos				
Ever.....	43%	41%	45%	43%
Past Year.....	22%	21%	24%	22%
Horse Racing				
Ever*.....	17%	10%	13%	21%
Past Year.....	4%	4%	4%	5%
Greyhound Racing				
Ever*.....	23%	8%	34%	27%
Past Year*.....	7%	1%	13%	8%
Charitable Gaming				
Ever.....	22%	24%	25%	20%
Past Year.....	11%	11%	13%	10%

* The differences between regions are statistically significant at the .05 level.

**Massachusetts Gaming Study
Lottery Participation
By Region**

	Statewide	Western MA	South- eastern MA	Greater Boston
Played Lotto				
(Base).....	(1000)	(249)	(192)	(559)
Ever.....	59%	59%	66%	56%
Past 6 Months.....	54%	53%	61%	53%
Mean per month				
(all respondents).....	\$7.42	\$6.55	\$6.09	\$8.26
(Base).....	(992)	(247)	(191)	(554)
Mean per month				
(players only).....	\$13.73	\$12.45	\$9.94	\$15.83
(Base).....	(536)	(130)	(117)	(289)
Played Instant				
(Base).....	(1000)	(249)	(192)	(559)
Ever*.....	53%	53%	62%	50%
Past 6 Months*.....	49%	49%	58%	46%
Mean per month				
(all respondents).....	\$7.78	\$6.95	\$8.29	\$7.97
(Base).....	(991)	(246)	(190)	(555)
Mean per month				
(players only).....	\$15.96	\$14.49	\$14.33	\$17.34
(Base).....	(483)	(118)	(110)	(255)
Played MA Numbers				
(Base).....	(998)	(248)	(192)	(558)
Ever.....	33%	33%	34%	33%
Past 6 Months.....	24%	22%	25%	24%
Mean per month				
(all respondents).....	\$3.91	\$4.68	\$3.00	\$3.87
(Base).....	(996)	(248)	(191)	(557)
Mean per month				
(players only).....	\$16.49	\$21.09	\$12.19	\$16.10
(Base).....	(236)	(55)	(47)	(134)
Played Keno				
(Base).....	(999)	(249)	(192)	(558)
Ever*.....	20%	17%	26%	19%
Past 6 Months.....	14%	14%	17%	14%
Mean per month				
(all respondents).....	\$2.37	\$1.29	\$1.50	\$3.14
(Base).....	(997)	(249)	(190)	(558)
Mean per month*				
(players only).....	\$16.74	\$9.20	\$9.19	\$23.37
(Base).....	(141)	(35)	(31)	(75)

* The differences between regions are statistically significant at the .05 level.

The Gaming Strategy Group

Massachusetts Gaming Study

Awareness of Possible Casinos*
By Region

	Statewide (Base)	Western MA (994)	South- eastern MA (191)	Greater Boston (555)
Aware, know both locations.....	4%	6%	3%	3%
Aware, know New Bedford location.....	33%	13%	59%	34%
Aware, know Western MA location.....	10%	35%	1%	1%
Aware, Don't know location.....	22%	15%	16%	28%
Not aware at all.....	31%	31%	20%	34%

* The differences between regions are statistically significant at the .05 level.

Massachusetts Gaming Study

**SCENARIO #1 (New Bedford Casino Only)
By Region**

	Statewide	Western MA	South-eastern MA	Greater Boston
Likelihood of Going To New Bedford Casino*				
(Base).....	(993)	(248)	(191)	(554)
Very likely.....	19%	10%	29%	19%
Somewhat likely.....	15%	15%	16%	16%
Not too likely.....	15%	14%	14%	15%
Not at all likely.....	51%	61%	41%	50%
Number of Days Visit in First Year				
All respondents.....	2.44	1.28	3.65	2.55
(Base).....	(981)	(246)	(189)	(546)
Attendees only.....	7.42	5.41	8.31	7.66
(Base).....	(323)	(58)	(83)	(182)
Average Amount Take to Play				
All respondents.....	\$63.86	\$38.92	\$67.47	\$73.89
(Base).....	(990)	(249)	(190)	(551)
Attendees only.....	\$190.43	\$158.85	\$152.62	\$217.72
(Base).....	(332)	(61)	(84)	(187)

* The differences between regions are statistically significant at the .05 level.

Massachusetts Gaming Study

**SCENARIO #2 (New Bedford & Western MA Casino)
By Region**

	Statewide	Western MA	South- eastern MA	Greater Boston
Where Likely to Go*				
(Base).....	(980)	(244)	(189)	(547)
Both casinos.....	9%	8%	3%	12%
New Bedford Only.....	19%	4%	41%	18%
Western MA Only.....	10%	25%	2%	5%
Neither.....	62%	63%	54%	64%
Impact on Time at Casinos By Adding Western MA				
All Respondents*				
(Base).....	(980)	(244)	(189)	(547)
Go to both, more total days.....	6%	5%	1%	8%
Only go to Western MA casino.....	9%	25%	2%	5%
Go to both, same total days.....	3%	2%	2%	3%
Only go to New Bedford casino.....	19%	4%	41%	18%
Not go to either casino..	63%	64%	55%	65%
Casino Attendees Only*				
(Base).....	(364)	(88)	(85)	(191)
Go to both, more total days.....	16%	14%	2%	23%
Only go to Western MA casino.....	26%	68%	4%	16%
Go to both, same total days.....	7%	7%	4%	8%
Only go to New Bedford casino.....	52%	11%	91%	53%
Number of Days at MA Casinos				
All respondents.....	3.54	4.89	3.72	2.87
(Base).....	(960)	(241)	(185)	(534)
Attendees only.....	9.92	14.04	8.51	8.62
(Base).....	(343)	(84)	(81)	(178)

* The differences between regions are statistically significant at the .05 level.

Massachusetts Gaming Study

**SCENARIO #3 (New Bedford & EGDS)
By Region**

	Statewide	Western MA	South- eastern MA	Greater Boston
Likely Participation*				
(Base).....	(992)	(247)	(191)	(554)
New Bedford & EGDS.....	11%	5%	14%	12%
New Bedford Only.....	23%	19%	31%	23%
EGDs Only.....	3%	2%	3%	3%
Neither.....	63%	74%	52%	61%
Extent of EGD Participation				
All Respondents				
Number of Days (mean)....	1.41	.79	1.19	1.76
(Base)	(995)	(248)	(191)	(556)
Average Amount take to Play (mean).....	\$15.70	\$7.65	\$19.95	\$17.85
(Base)	(995)	(249)	(191)	(555)
EGD attendees only				
Number of Days (mean)....	10.69	12.25	7.60	11.48
(Base)	(131)	(16)	(30)	(85)
Average Amount Take to Play (mean).....	\$119.24	\$112.06	\$127.00	\$117.92
(Base)	131	17	30	84
Impact of EGD Participation on New Bedford Casino				
(Base).....	(100)	(11)	(26)	(63)
In addition to New Bedford casino visits...	74%	73%	73%	75%
Instead of New Bedford casino visits.....	26%	27%	27%	25%

* The differences between regions are statistically significant at the .05 level.

Massachusetts Gaming Study

**Scenario #4 (New Bedford/Hampton County Casinos and EGDS)*
By Region**

	Statewide	Western MA	South- eastern MA	Greater Boston
(Base)	(980)	(244)	(189)	(547)
Nothing.....	59%	62%	52%	61%
New Bedford Only.....	13%	2%	28%	13%
Western MA Only.....	9%	23%	2%	5%
Both Casinos.....	5%	6%	3%	6%
EGDs Only.....	3%	1%	3%	3%
Both Casinos & EGDS.....	4%	2%	1%	5%
New Bedford Casino & EGDS	6%	2%	13%	6%
Western MA Casino & EGDS.	1%	2%	0%	1%

* The differences between regions are statistically significant at the .05 level.

Massachusetts Gaming Study

**Impact of Scenarios on Any Lottery Participation
By Region**

	Statewide	Western MA	South- eastern MA	Greater Boston
Percentage of Respondents Who Would Play Any Lottery Game Less Often Under Each Scenario				
Scenario #1..... (Base)	4% (599)	1% (147)	5% (132)	5% (320)
Scenario #2..... (Base)	5% (598)	2% (146)	5% (132)	6% (320)
Scenario #3*..... (Base)	5% (598)	1% (147)	5% (132)	7% (319)
Scenario #4..... (Base)	6% (598)	4% (147)	5% (132)	7% (319)

* The differences between regions are statistically significant at the .05 level.

Responses by Lottery Player Type

Massachusetts Gaming Study

**Participation in Gambling Activities
By Lottery Player Type**

	Light (0-\$10)*	Moderate (\$10-\$24)*	Heavy (\$25+)*
(Base).....	(246)	(153)	(204)
MA Lottery			
Ever.....	100%	100%	100%
Past 6 Months.....	100%	100%	100%
Horse Racing			
Ever**.....	13%	20%	31%
Past Year**.....	3%	3%	11%
Greyhound Racing			
Ever**.....	19%	39%	41%
Past Year**.....	4%	8%	20%
Charitable Gaming			
Ever**.....	16%	28%	41%
Past Year**.....	5%	18%	27%
Casinos			
Ever**.....	43%	49%	68%
Past Year**.....	17%	25%	50%

* Average monthly total lottery expenditures.

** The differences between lottery player type are statistically significant at the .05 level.

**Massachusetts Gaming Study
Lottery Participation
By Lottery Player Type**

	Light (0-\$10)*	Moderate (\$10-\$24)*	Heavy (\$25+)*
Played Lotto			
(Base).....	(246)	(153)	(204)
Ever**.....	89%	97%	98%
Past 6 Months**.....	80%	90%	95%
Mean per month			
(all lottery players)**.	\$1.88	\$5.72	\$28.62
(Base).....	(246)	(153)	(204)
Mean per month			
(players only)**.....	\$2.36	\$6.39	\$30.10
(Base).....	(196)	(137)	(194)
Played Instant			
(Base).....	(246)	(153)	(204)
Ever**.....	72%	93%	94%
Past 6 Months**.....	61%	90%	93%
Mean per month			
(all lottery players)**.	\$1.35	\$6.32	\$30.97
(Base).....	(246)	(153)	(204)
Mean per month**			
(players only).....	\$2.22	\$7.01	\$33.25
(Base).....	(149)	(138)	(190)
Played Numbers			
(Base).....	(244)	(153)	(204)
Ever**.....	32%	58%	76%
Past 6 Months**.....	15%	40%	65%
Mean per month			
(all lottery players)**.	\$.22	\$1.80	\$16.51
(Base).....	(246)	(153)	(204)
Mean per month**			
(players only).....	\$1.43	\$4.52	\$25.33
(Base).....	(37)	(61)	(133)
Played Keno			
(Base).....	246	153	204
Ever**.....	13%	35%	50%
Past 6 Months**.....	6%	25%	41%
Mean per month			
(all lottery players)**.	\$.08	\$1.59	\$9.99
(Base).....	(246)	(153)	(204)
Mean per month**			
(players only).....	\$1.43	\$6.26	\$24.55
(Base).....	(14)	(39)	(83)

* Average monthly total lottery expenditures.

** The differences between lottery player type are statistically significant at the .05 level.

The Gaming Strategy Group

Massachusetts Gaming Study

**Awareness of Possible Casinos
By Lottery Player Type**

	Light (0-\$10)*	Moderate (\$10-\$24)*	Heavy (\$25+)*
(Base).....	(243)	(153)	(204)
Aware, know both locations.....	6%	3%	5%
Aware, know New Bedford location.....	32%	44%	41%
Aware, know Western MA location.....	12%	9%	9%
Aware, don't know location.....	23%	18%	22%
Not aware at all.....	28%	26%	23%

Massachusetts Gaming Study

SCENARIO #1 (New Bedford Casino Only)
By Lottery Player Type

	Light (0-\$10)*	Moderate (\$10-\$24)*	Heavy (\$25+)*
Likelihood of Going To New Bedford Casino**			
(Base).....	(244)	(152)	(202)
Very likely.....	12%	30%	46%
Somewhat likely.....	15%	22%	25%
Not too likely.....	18%	17%	11%
Not at all likely.....	55%	32%	19%
 Number of Days Visit in First Year			
All respondents**.....	.79	2.46	8.72
(Base).....	(244)	(150)	(196)
Attendees only**.....	3.06	4.92	12.75
(Base).....	(63)	(75)	(134)
 Average Amount Take to Play			
All respondents**.....	\$30.82	\$80.96	\$156.52
(Base).....	(245)	(149)	(204)
Attendees only**.....	\$117.97	\$163.01	\$224.86
(Base).....	(64)	(74)	(142)

* Average monthly total lottery expenditures.

** The differences between lottery player type are statistically significant at the .05 level.

Massachusetts Gaming Study

SCENARIO #2 (New Bedford & Western MA Casino)
By Lottery Player Type

	Light (0-\$10)*	Moderate (\$10-\$24)*	Heavy (\$25+)*
Where Likely to Go**			
(Base).....	(241)	(148)	(196)
Both casinos.....	7%	11%	21%
New Bedford Only.....	13%	34%	37%
Western MA Only.....	9%	13%	16%
Neither.....	71%	43%	26%
 Impact on Time at Casinos			
By Adding Western MA			
 All Respondents**			
(Base).....	(242)	(148)	(195)
Go to both, more total days.....	4%	7%	14%
Only go to Western MA casino.....	9%	13%	16%
Go to both, same total days.....	2%	3%	6%
Only go to New Bedford casino.....	13%	34%	37%
Not go to either casino..	71%	43%	27%
 Casino Attendees Only			
(Base).....	(69)	(84)	(143)
Go to both, more total days.....	13%	12%	20%
Only go to Western MA casino.....	32%	23%	22%
Go to both, same total days.....	9%	6%	8%
Only go to New Bedford casino.....	46%	60%	50%
 Number of days in MA Casinos			
All respondents**.....	1.07	3.06	13.40
(Base).....	(240)	(144)	(188)
Attendees only**.....	3.84	5.51	18.66
(Base).....	(67)	(80)	(135)

* Average monthly total lottery expenditures.

** The differences between lottery player type are statistically significant at the .05 level.

Massachusetts Gaming Study

SCENARIO #3 (New Bedford & EGDS)
By Lottery Player Type

	Light (0-\$10)*	Moderate (\$10-\$24)*	Heavy (\$25+)*
Likely Participation**			
(Base).....	(244)	(152)	(201)
New Bedford Only.....	21%	34%	44%
New Bedford & EGDS.....	5%	17%	26%
EGDs Only.....	2%	6%	2%
Neither.....	71%	43%	27%
Extent of EGD Participation			
All Respondents			
Number of Days (mean)**..	.31	.70	5.06
(Base).....	(245)	(152)	(202)
Average Amount take to			
Play (mean)**.....	\$5.06	\$15.26	\$39.16
(Base).....	(246)	(153)	(202)
EGD Attendees only			
Number of Days (mean)**..	4.53	3.12	18.58
(Base).....	(17)	(34)	(55)
Average Amount Take to			
Play (mean)**.....	\$69.17	\$66.71	\$143.82
(Base).....	(18)	(35)	(55)
Impact of EGD			
Participation on New			
Bedford Casino			
(Base).....	(11)	(24)	(51)
In addition to New			
Bedford casino visits...	55%	75%	76%
Instead of New Bedford			
casino visits.....	45%	25%	24%

* Average monthly total lottery expenditures.

** The differences between lottery player type are statistically significant at the .05 level.

Massachusetts Gaming Study

SCENARIO #4 (New Bedford/Hampton County Casinos and EGDs)
By Lottery Player Type**

	LOTTYPE		
	Light (0-\$10)*	Moderate (\$10-\$24)*	Heavy (\$25+)*
(Base)	(241)	(148)	(196)
Nothing.....	69%	37%	23%
New Bedford Only.....	10%	24%	22%
Western MA Only.....	9%	12%	14%
Both Casinos.....	5%	5%	14%
EGDs Only.....	2%	5%	3%
Both Casinos & EGDs.....	2%	6%	7%
New Bedford Casino & EGDs	3%	10%	15%
Western MA Casino & EGDs.	0%	1%	3%

* Average monthly total lottery expenditures.

** The differences between lottery player type are statistically significant at the .05 level.

Massachusetts Gaming Study

**Impact of Scenarios on Any Lottery Participation
By Lottery Player Type**

	Light (0-\$10)*	Moderate (\$10-\$24)*	Heavy (\$25+)*
Scenario #1**..... (Base).....	1% 228	6% 151	6% 202
Scenario #2**..... (Base).....	1% 228	6% 150	7% 202
Scenario #3**..... (Base).....	1% 228	8% 151	6% 201
Scenario #4**..... (Base).....	2% 228	8% 151	8% 201

* Average monthly total lottery expenditures.

** The differences between lottery player type are statistically significant at the .05 level.



***Massachusetts Residents Survey
to Assess Interest
in Proposed New Gambling Options***

Companion Report

June 27, 1996

HARTFORD • NEW YORK • BOSTON

255 Main Street • Hartford, Connecticut 06106 • 203/549-6770 • FAX 203/293-2674

KEY FINDINGS

Residents' Current Participation In Gambling Activities

Lottery

1. By far, many more residents participated in lottery games than any other gambling activity. Almost four-fifths (79%) of the respondents had purchased lottery tickets, and 62% had done so in the past six months.
2. In the past six months, 55% of the respondents surveyed said that they had played Megabucks or other Lotto-type games, and 49% said they had played Instant games. Playership drops to about one-fourth (24%) for Numbers and 15% for Keno (the most recently introduced Massachusetts lottery game).
3. For each game, respondents who played that game reported spending an average of \$14 - \$17 per month.

Other Gambling Involvement

4. After the lottery, the next most prevalent gambling activity was casino gaming. We found over two-fifths (43%) of the respondents had ever been to a casino, and over one-fifth (22%) had been in the past 12 months.
5. Over four-fifths (82%) of the Massachusetts residents who visited a casino in the past year visited Foxwoods, compared to 43% for all other casinos. Moreover, 18% of all survey respondents visited Foxwoods in the past year.
6. Those visiting a casino in the past 12 months averaged five days at casinos. On average, these participants budgeted \$162 per day for casino wagering.
7. Gambling participation drops considerably for charitable wagering (22% ever and 11% in the last 12 months), greyhound racing (23% ever and 7% in the last 12 months), and horse racing (17% ever and 4% in the last 12 months).

Resident Awareness of Possible Massachusetts Casinos

8. Over two-thirds (69%) of the respondents knew that casinos were being considered for Massachusetts. Respondents were much more likely to know consideration was being given to the New Bedford location (37%) than the Western Massachusetts location (14%).

Expected Participation in Alternative Gaming Scenarios

Scenario #1: New Bedford Casino Only

9. In total, 34% of respondents said they would be "very" (19%) or "somewhat" (15%) likely to go to the New Bedford casino. On average, respondents likely to visit the casino said they would take \$190 with them to play on a given day/night*.

Scenario #2: New Bedford and Western Mass. Casinos

10. Almost two-fifths (38%) of the respondents said they would be likely to go to at least one of these casinos. Nineteen percent (19%) of the respondents said they would probably go only to the New Bedford casino, 10% only to the Western Mass. casino, and 9% said they would go to both.
11. A total of 15% of the state residents are likely to spend more days at a Massachusetts casino if both, rather than only a New Bedford casino, were to be built.
12. Forty-one percent (41%) of the residents who will go to a casino will spend more total days at the casino(s) if both, rather than only a New Bedford casino, were to be built.

Scenario #3: New Bedford Casino and EGDs

13. Only 11% of the respondents said that they would go to both gambling locations, 23% said that they would go only to the casino, and 3% said that they would go to only the tracks to play the EGDs. On average, respondents who said they are likely to play EGDs at the tracks said they will take \$119 to wager.

* These responses are similar to those we obtained in our survey in Connecticut prior to the opening of Foxwoods.

Scenario #4: New Bedford and Western Mass. Casinos and EGDs

14. We found that 41% of the respondents surveyed said that they would participate in at least one of the three gambling options; 27% said they would participate in casinos only, 11% would go to a casino and play EGDs at the tracks, and 3% would only play the EGDs.

Anticipated Impact of New Gaming Scenarios on Lottery and Charitable Wagering Participation

Lottery

15. Under the greatest gambling expansion (Scenario #4), 4% - 6% of the respondents said they would play each of the different lottery games less often. While low, these percentages are much higher than were reported in Connecticut prior to Foxwoods.
16. Under each scenario, impacted respondents said they would wager about 50% less on Lotto and Keno due to the new gambling options. The impact is slightly less for Instant (38% - 48%) and Numbers (35% - 46%) games.

Charitable Wagering

17. The percentage of respondents who currently engage in charitable wagering who said they would do so less often ranges from 10% to 13%, depending on the scenario.
18. Impacted players said they would wager 45% to 56% less on charitable wagering depending on the scenario.

Effects of Respondent Characteristics on Responses

Gender

19. Men were more likely than females to express a likelihood of participating in the proposed new gambling options.
20. Men were more likely than women to say that they would play the lottery less due to the proposed new gambling options. Under Scenario #2 (6% vs. 3%), Scenario #3 (6% vs. 3%), and Scenario #4 (8% vs. 4%), twice as many men as women said that they would wager less on the lottery.

Age

21. The younger the respondents, the more likely they were to be interested in each of the proposed gambling options. For example, we found that 71% of the respondents 18 - 24 years of age said that if Scenario #4 were implemented they would participate in at least one of the gambling options. The next most active age group was 25 - 34 years of age, where 46% said that they would do so. For those 65+, the percentage drops to only 19%.
22. Respondents 18 - 24 years of age were much more likely to say that they would play the lottery less if the proposed gaming options were operational. In fact, 15% (Scenario #1) to 21% (Scenario #4) of those 18 - 24 years of age said they would play the lottery less. For other groups, the percentage was typically 4% - 5% or lower.

Household Income

23. Respondents with a household income of < \$25,000 were the least likely to have played the lottery in the past six months (53% vs. 60% - 70% for all other income levels). Lower participation by those earning < \$25,000 was found for all types of lottery games.
24. Respondents with a household income of \$50,000+ were twice as likely to have gone to a casino in the past year than those with a household income of < \$25,000 (30% vs. 15%).
25. Reported likelihood of visiting the proposed new gaming options does not vary by income level, except that under Scenarios #3 and #4, respondents with an income level \$25,000-\$35,000 expressed the most interest in the EGDs.
26. Respondents with a household income level of < \$35,000 were much more likely to say that they would play the lottery less if the proposed gaming options were operated. In fact, 8% (Scenario #1) to 11% (Scenario #4) of those < \$35,000 said they would play the lottery less. For other groups, the percentage is typically 1% - 3%.
27. The greater one's education, the less likely one is to have played the lottery or participated in charitable wagering. Those with college or graduate school degrees were least likely to have played each of the four types of lottery games.
28. The greater one's education, the less interest one showed in the proposed new gaming options. We found under Scenario #4, 80% of those with a graduate school degree and 63% of those with a college degree said they would not participate in any of the proposed activities. This drops to 50% for those with less education.

Type of Lottery Player (Heavy, Moderate, or Light)

29. Heavy lottery players were significantly more involved in other gambling activities than light and moderate players.
30. The greater the participation in the lottery, the more likely the respondents are to go to the proposed new gaming options and the more they are likely to wager.
31. Under Scenario #4, 77% of the heavy lottery players were likely to participate in at least one of the new gambling options. This drops to 63% for moderate lottery players and 31% for light lottery players.
32. Under the different scenarios, 6% - 8% of the heavy and moderate players said they would wager less on the lottery due to the new gambling options compared to only 1% - 2% of the light lottery players.

Contents

I. BACKGROUND.....	1
II. RESEARCH OBJECTIVES	2
III. METHODOLOGY	3
A. Sampling	3
B. Data Collection.....	3
IV. STUDY FINDINGS	4
A. Massachusetts Residents' Current Participation in Gambling Activities	4
1. Percentage of Massachusetts Residents Participating in Various Gambling Activities.....	4
2. Participation in Massachusetts Lottery Games	6
3. Participation in Horse and Dog Racing	8
4. Charitable Wagering.....	10
5. Casinos.....	13
B. Resident Awareness of Possible Massachusetts Casinos	15
C. Expected Participation in Alternative Gambling Scenarios	16
1. Scenario #1 (New Bedford Casino Only).....	16
2. Scenario #2 (New Bedford and Western Mass. Casinos)	19
3. Scenario #3 (New Bedford Casino and EGDs).....	21
4. Scenario #4 (New Bedford and Western Mass. Casinos and EGDs).....	24
D. Anticipated Reported Impact of New Gambling Scenarios on Lottery and Charitable Wagering Participation.....	25
1. Lottery Games	25
2. Charitable Wagering.....	28

Contents

E. Respondent Characteristics	30
1. All Survey Respondents	30
2. Comparison of Lottery Players to Non-Players.....	32
3. Comparison of Heavy, Moderate, and Light Lottery Players.....	35
F. Effects of Respondent Characteristics on Survey Responses.....	38

APPENDICES

- Appendix A: Confidence Range Chart
Appendix B: Survey Instrument

I. Background

The Commonwealth of Massachusetts is currently evaluating the possibility of:

- ◆ a land-based casino in New Bedford;
- ◆ a land-based casino in Hampden County; and
- ◆ the installation of 700 electronic gaming devices (EGDs) at the state's four commercial race tracks.

The Gaming Strategy Group (GSG) has been retained by the Massachusetts State Lottery Commission (MSLC) to:

- ◆ evaluate the performance of the MSLC and compare the Massachusetts Lottery to other state lotteries;
- ◆ evaluate existing casino/EGD impact on traditional lottery sales in other jurisdictions;
- ◆ estimate the size and scope of the proposed new Massachusetts gambling activities; and
- ◆ project the impact that the proposed new gambling options would have on the Massachusetts Lottery.

A complete report on the performance of the MSLC, the impact of casinos and EGDs on lottery sales in other states, and projections of the size, scope and estimated impact of the proposed new gambling activities on the Massachusetts Lottery has been provided to the MSLC under separate cover (*The Impact of Casinos and Gambling Devices on the Massachusetts State Lottery: Final Report*). Data sources used to calculate the projections provided in GSG's final report were based on: (a) gaming performance data across the country, (b) public and private financial and capital investment statistics, and (c) consumer market research conducted by GSG in Massachusetts.

This companion to the final report provides a complete presentation of the findings of GSG's Massachusetts consumer survey.

II. Research Objectives

The specific research objectives of the consumer survey were to determine Massachusetts residents':

- ◆ current participation in different gambling activities and the extent of that participation (Section IV.A);
- ◆ awareness of possible Massachusetts casinos and their locations (Section IV.B);
- ◆ expected levels of participation in four different scenarios of new gaming options in Massachusetts (Section IV.C); and
- ◆ assessment of the impact that respondents anticipated these new gaming options would have on their current lottery and charitable wagering practices (Section IV.D).

In addition, data were analyzed to determine:

- ◆ similarities and differences in the demographic profiles of heavy, moderate, and light lottery players and of non-players; (Section IV.E); and
- ◆ the extent to which responses differ based on region, respondent demographics (e.g., age, gender, income, and education), and respondent lottery wagering (Section IV.F).

III. Methodology

A. Sampling

Respondents were obtained from a Random Digit Dial (RDD) sample for the State of Massachusetts. This enabled individuals with and without a listed telephone number to be included in the study.

Using the RDD sample, GSG surveyed a total of 1,000 Massachusetts residents. Respondents were sampled proportionate to the population of the state's 14 counties and to the gender distribution of the state (52% female, and 48% male).

A sample of 1,000 residents provides for a statewide confidence range within +/- 3.2 at a 95% confidence level. It also provides for meaningful analysis when crosstabulating survey responses by respondent characteristics. As the number of respondents answering a specific question varies from question to question, we have provided a chart that displays the confidence range for different sample sizes (see Appendix A).

B. Data Collection

Interviews were conducted from February 12 - 26, 1996. All interviews were conducted using the same structured survey instrument. The instrument was programmed onto a CATI system to enable interviewers to handle complex skip patterns without difficulty. A copy of the survey instrument is included in Appendix B.

The study had a cooperation rate of 44.4% which is in the normal range for this type of survey.

IV. Study Findings

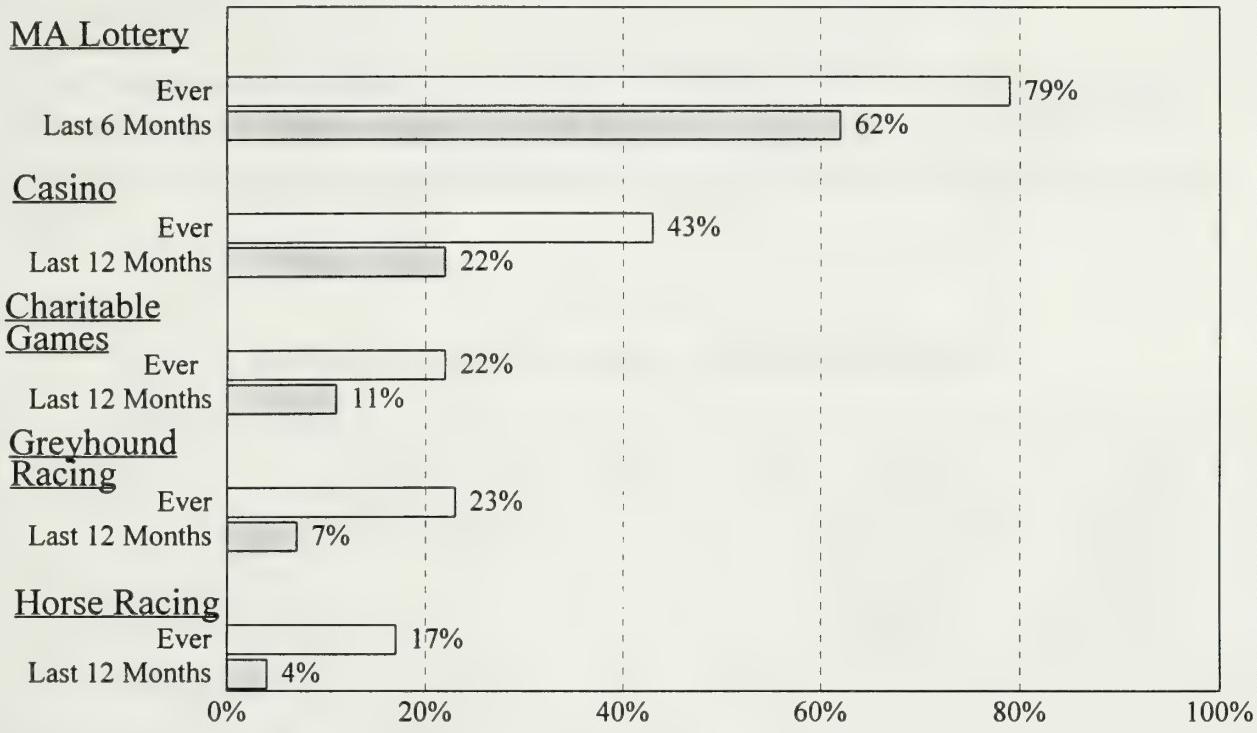
A. Massachusetts Residents' Current Participation in Gambling Activities

1. Percentage of Massachusetts Residents Participating in Various Gambling Activities

Respondents were asked a series of questions about their participation in different forms of gambling activities that are legal in Massachusetts (i.e., lottery, charitable gaming, greyhound racing, and horse racing), as well as their wagering at casinos. Figure 1 displays the percentage of respondents who have engaged in these activities and whether they have done so in the last 12 months*.

* For the lottery, we used a six month timeframe rather than the 12 month period used for other gambling activities (which we expected, based upon previous research, to show lower rates of participation).

Figure 1
Participation in Gambling Activities
(Base=1,000)



As shown in Figure 1:

- ◆ By far, many more residents participated in lottery games than in any other gaming activity. Almost four-fifths (79%) of the respondents had purchased lottery tickets, and 62% had done so in the past six months.
- ◆ The next most prevalent gaming activity was casino gambling. We found over two-fifths (43%) of the respondents had ever been to a casino and over one-fifth (22%) had been in the past 12 months.
- ◆ Gambling participation drops considerably for charitable wagering (22% ever and 11% in the last 12 months), greyhound racing (23% ever and 7% in the last 12 months), and horse racing (17% ever and 4% in the last 12 months).

2. Participation in Massachusetts Lottery Games

Residents who had played any lottery game in the past six months were asked a series of questions about Massachusetts Lotto-type games (e.g., Megabucks), Instant Tickets, Number Games, and Keno.

Figure 2 displays the percentage of residents who said that they had ever played each game, the percentage who said that they had played that game in the past six months, and the average amount the respondents (includes players and non-players) and "players" wagered in a typical month.

Figure 2
Participation in Massachusetts Lottery Games

	Last 6 months (Base=1,000)	Ever (Base=1,000)	Mean \$ Amount Spent In Typical Month (players only)	Mean \$ Amount Spent In Typical Month (all respondents)
Lotto-type	55%	59%	\$13.73 (Base=536)	\$7.42 (Base=992)
Instant	49%	53%	\$15.96 (Base=483)	\$7.78 (Base=991)
Numbers Game	24%	33%	\$16.49 (Base=236)	\$3.91 (Base=996)
Keno	15%	21%	\$16.74 (Base=141)	\$2.37 (Base=997)

way
too
low

As shown in Figure 2:

- ◆ 55% of the respondents surveyed said that they had played Lotto games in the past six months, and 49% said they had played Instant games in the past six months.

- ◆ Participation in the last six months drops to about one-fourth (24%) for Numbers, and 15% for Keno (the newest Massachusetts lottery game).
- ◆ For each game, respondents who played the game reported spending about \$14 - \$17 per month on that type of game.

Figure 3 displays the frequency that players reported wagering on each type of lottery game.

Figure 3
Frequency Lottery Players Wager On Lottery Games

(Base)	Instant Games (492)	Numbers Game (235)	Keno (143)	Lotto (542)
Every day.....	6%	15%	1%	NA
Several days a week.	14%	11%	8%	18%
About once a week...	19%	12%	15%	19%
About once every 2-3 weeks.....	20%	19%	11%	15%
About once a month..	16%	17%	24%	19%
< once a month.....	25%	26%	41%	29%

As shown in Figure 3:

- ◆ Respondents displayed considerable variation in the frequency with which they purchased various lottery game tickets.
- ◆ Between 37% - 39% of those respondents purchasing Instant, Numbers and Lotto tickets purchased these tickets at least once per week. On the other hand, 41 - 48% of the respondents purchasing Instant, Numbers and Lotto tickets said they buy these tickets about once a month or less.
- ◆ In contrast, only 24% of Keno players said they play at least once a week, and 65% do so once a month or less.

3. Participation in Horse and Dog Racing

Figures 4a and 4b (see pages 9 and 10) display participants reported pari-mutuel wagering at Massachusetts horse and dog tracks. In total, 30% of the respondents had gone to a Massachusetts horse or dog track at one time and 10% had gone in the past 12 months.

As shown in Figures 4a - 4b:

- ◆ Massachusetts respondents visiting a track in the past year were much more likely to have visited Suffolk Downs (69%) than Foxboro Park (43%), and Raynham (62%) than Wonderland (43%).
- ◆ Participants reported wagering more at greyhound tracks (\$72 per day) than at horse tracks (\$54). About one-fifth of the horse track and one-fifth of the dog track attendees wagered at least \$100 per day*.

* These figures are comparable to those we have observed in previous research among the population as a whole. Responses wagering levels are much lower than the 'per capita wagers' observed at race tracks because we are sampling the population as a whole, rather than the (very small) proportion of the public which dominated race track attendance and wagering.

Figure 4a
Horse Racing Activities of Racing Participants

Tracks Attended in Past Year (Base=35)	
Suffolk Downs.....	69%
Foxboro Park.....	43%
Visits to Tracks in Past Year	
Suffolk Downs (Base=26)	
Mean.....	3.96
Median.....	2.00
Foxboro Park (Base=16)	
Mean.....	4.75
Median.....	2.00
Average Amount Bet Per Day at Horse Track (Base=39) (Mean=\$54.00 Median=\$40.00)	
< \$20	21%
\$20-\$49.....	33%
\$50-\$99.....	26%
\$100+.....	21%
Total.....	100%

Figure 4b
Greyhound Racing Activities of Race Participants

Tracks Attended in Past Year (Base=69)	
Raynham.....	62%
Wonderland.....	43%
Visits to Tracks in Past Year	
Raynham (Base=42)	
Mean.....	6.67
Median.....	2.00
Wonderland (Base=30)	
Mean.....	4.37
Median.....	2.00
Average Amount Bet per Day at Greyhound Track (Base=69) (Mean=\$71.59 Median=\$50.00)	
\$20-\$49.....	49%
\$50-\$99.....	29%
\$100+.....	22%
Total.....	100%

4. Charitable Wagering

Information on respondents' reported charitable wagering is provided in Figures 5a-5b (see pages 11 & 12). In total, 22% had played such games at some times, and 11% had played within the past year.

Figure 5a
**Casino Night Activities of those Participating in
Charitable Wagering**

Charitable Casino Night in Past Year (Base=107)	
Yes.....	33%
No.....	67%
Total.....	100%
Number Times Attended in Past Year (Base=35) (Mean=2.31 Median=1.00)	
1 time.....	54%
2-3 times.....	29%
4-9 times.....	11%
10+ times.....	6%
Total.....	100%
Average Amount Budgeted (Base=33) (Mean=\$73.33 Median=\$30.00)	
< \$20.....	12%
\$20-\$49.....	52%
\$50-\$99.....	12%
\$100+.....	24%
Total.....	100%
Games Played (Base=35)	
Blackjack.....	74%
Roulette.....	40%
Wheel of Fortune.....	37%
Poker.....	31%
Baccarat.....	3%
Any Other Game.....	9%

Figure 5b
Bingo Activities of those Participating in Charitable Wagering

Charitable Bingo in Past Year (Base=107)	
Yes.....	55%
No.....	45%
Total.....	100%
Number Times Attended in Past Year (Base=58) (Mean=19.24 Median=4.00)	
1 time.....	17%
2-3 times.....	26%
4-9 times.....	26%
10+ times.....	31%
Total.....	100%
Average Amount Spent (Base=58) (Mean=\$24.28 Median=\$20.00)	
< \$20.....	26%
\$20-\$49.....	72%
\$50-\$99.....	0%
\$100+.....	2%
Total.....	100%
Purchased Pull-tabs in Past Year (Base=58)	
Yes.....	52%
No.....	48%
Total.....	100%
Number Times Purchased Pull-tabs in Past Year (Base=28) (Mean=13.04 Median=4.50)	
1 time.....	11%
2-3 times.....	32%
4-9 times.....	21%
10+ times.....	36%
Total.....	100%
Average Amount Spent on Pull-tabs in Past Year (Base=28) (Mean=\$54.10 Median=\$10.00)	
< \$20.....	66%
\$20-\$49.....	17%
\$50-\$99.....	7%
\$100+.....	10%
Total.....	100%

As revealed in Figures 5a - 5b:

- ◆ Of those respondents participating in charitable wagering this past year, 55% had played Bingo and 33% went to a charitable casino night.
- ◆ More than half (54%) of those attending a charitable casino event this past year said that they did so only one time. However, only 17% of those participating in a charitable bingo game did so only once.
- ◆ Only 2% of those playing charitable bingo games said they spent more than \$50 compared to 36% for charitable casino night.
- ◆ About one-half (52%) of the respondents who engaged in charitable wagering purchased Charity Tickets (pull-tabs) in the past year, and 57% did so at least four times. Players averaged \$54 per year on Charity Tickets.

5. Casinos

Figure 6 (see page 14) displays data on respondents' reported participation in casino gambling. In total, 43% said they had ever visited a casino, and 22% reported visiting one within the past year.

Figure 6 shows:

- ◆ Over four-fifths (82%) of the Massachusetts residents who visited a casino in the past year visited Foxwoods, compared to 43% for all other casinos. Moreover, 18% of all survey respondents visited Foxwoods in the past year.
- ◆ Those visiting a casino in the past 12 months averaged five days at casinos.
- ◆ On average, participants budgeted \$162 per day for casino wagering.
- ◆ By far, the most frequently played casino game is slot machines (90%), followed by blackjack (45%) and video poker (35%).

Figure 6
Casino Activities of Casino Attendees

Visited in Past Year (Base=222)	
Foxwoods.....	82%
Other Casino.....	43%
Number Days at Casinos in Past Year	
Foxwoods (Base=182)	
Mean.....	4.33
Median.....	2.00
Other Casino (Base=95)	
Mean.....	5.20
Median.....	3.00
Any Casino (Base=222)	
Mean.....	5.78
Median.....	3.00
Budget Per Day for Casino Betting (Base=210) (Mean=\$162.84 Median=\$100.00)	
< \$20.....	3%
\$20-\$49.....	11%
\$50-\$99.....	20%
\$100-\$199.....	34%
\$200-\$499.....	23%
\$500+.....	8%
Total.....	100%
Games Played (Base=221)	
Slot Machines.....	90%
Blackjack.....	45%
Video Poker.....	35%
Roulette.....	23%
Keno.....	18%
Craps.....	15%
Live Poker.....	13%
Wheel of Fortune.....	10%
Progressive Table Games.....	9%
High Stakes Bingo.....	9%
Pai Gow.....	2%
Baccarat.....	2%
Other Game.....	4%

B. Resident Awareness of Possible Massachusetts Casinos

Respondents were asked if they were aware of any casinos being considered in the Commonwealth of Massachusetts, and if so where they thought the casino or casinos would be built. Responses are displayed in Figure 7.

Figure 7
Awareness of Possible MA Casinos
(Base=994)

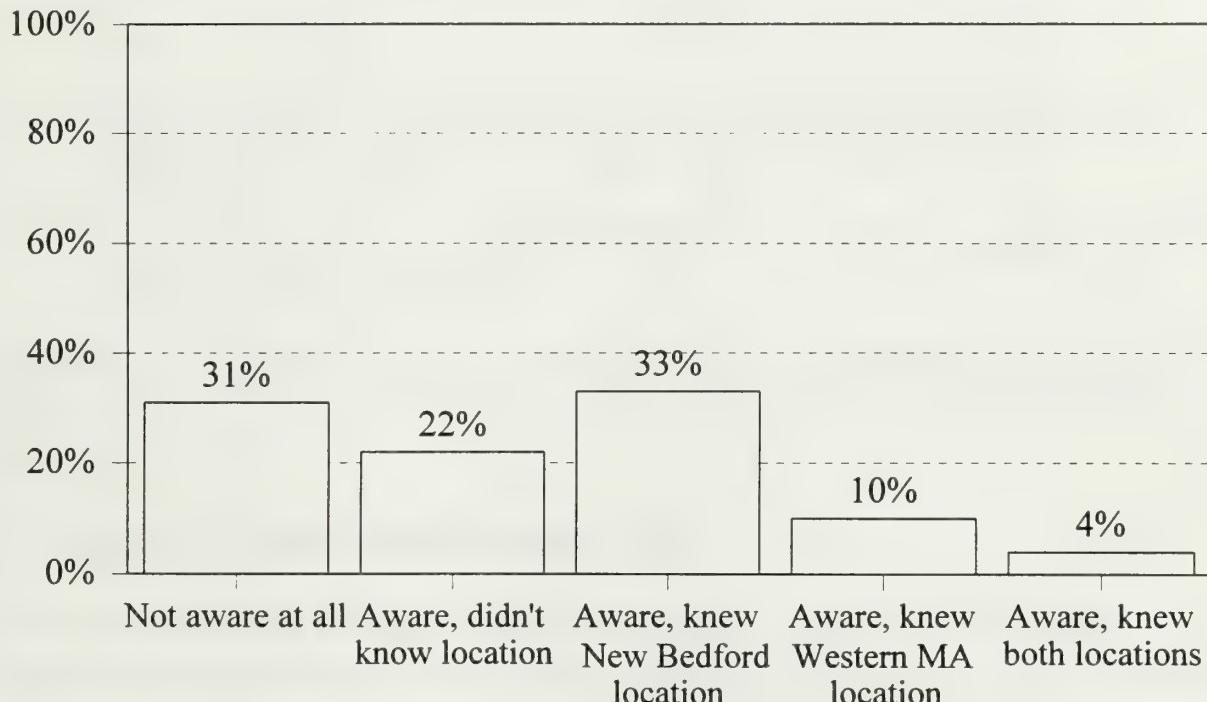


Figure 7 reveals that:

- ◆ 69% of the respondents knew that casinos were being considered and 31% did not.
- ◆ Respondents were much more likely to know consideration was being given to the New Bedford location (37%) than the Western Massachusetts location (14%).

- ◆ Only a handful of respondents (4%) knew about both locations.

C. Expected Participation in Alternative Gambling Scenarios

Participants were presented with four different possible scenarios one at time, for expanding gambling in Massachusetts.

The four different scenarios tested in the consumer survey were:

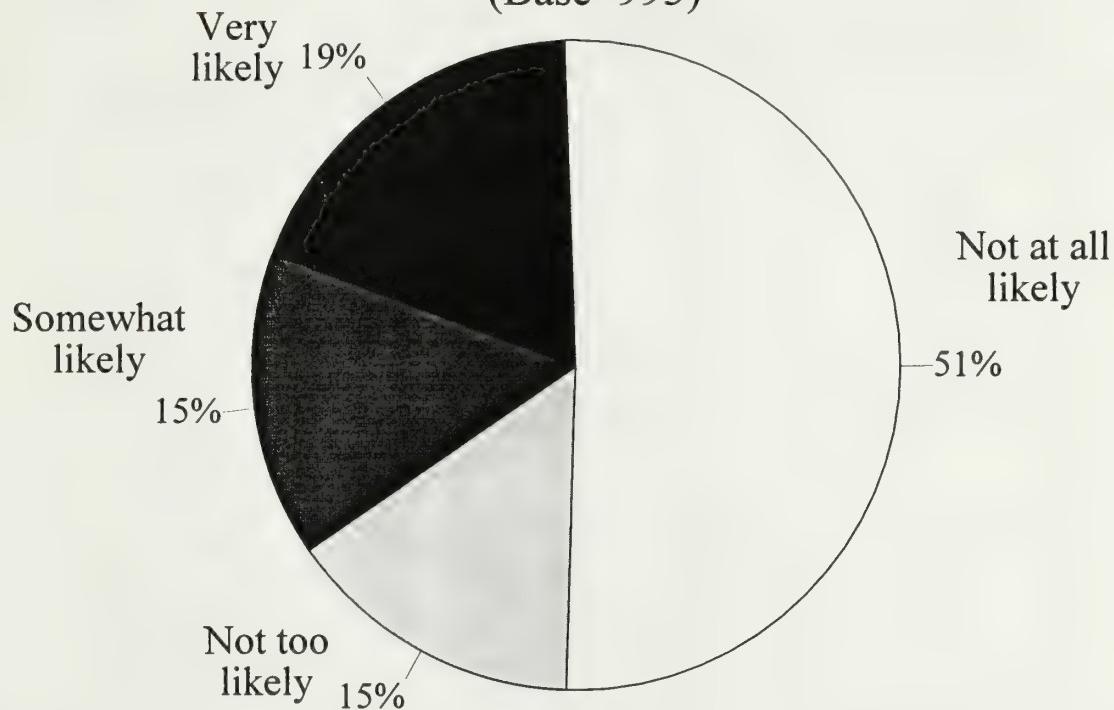
- ◆ a New Bedford Casino only (Scenario #1);
- ◆ casinos in both New Bedford and the Springfield/Holyoke area (Scenario #2);
- ◆ electronic gaming devices (e.g., slot machines, and video poker machines) at the four Massachusetts race tracks and a New Bedford Casino (Scenario #3); and
- ◆ a New Bedford Casino, a Springfield/Holyoke Casino, and electronic gaming devices at the four race tracks (Scenario #4).

Respondents were asked a series of questions about each scenario to determine their interest in participating.

1. Scenario #1 (*New Bedford Casino Only*)

Respondents were asked how likely they would be to go a casino built in New Bedford, Massachusetts (60 miles south of Boston) if it offered blackjack tables, crap tables, roulette, high stakes bingo, video poker, and slot machines. Responses are displayed in Figure 8.

Figure 8
Likelihood of Visiting New Bedford Casino
in its First Year
(Base=993)



As shown in Figure 8:

- ◆ 34% of the respondents said they would be "very" (19%) or "somewhat" (15%) likely to go to the New Bedford casino.

Respondents were also asked how many days they would spend at the facility and how much money they would take to play on a given day or night. Figure 9 displays these data tabulated for all respondents and for those respondents likely to visit the casino.

Figure 9
Expected Participation at New Bedford Casino

	All Respondents (Base=990)	Likely Attendees (Base=332)
Number Days Expect to Visit in First Year (Mean)	(2.4)	(7.4)
0 days.....	67%	0%
1 day.....	10%	31%
2-3 days.....	12%	36%
4-9 days.....	6%	17%
10+ days.....	6%	17%
Total.....	100%	100%
Average Amount Take to Play (Mean)	(\$63.86)	(\$190.43)
\$0.....	66%	0%
\$1-\$49.....	3%	9%
\$50-\$99.....	7%	21%
\$100-\$199.....	11%	34%
\$200-\$499.....	10%	29%
\$500+.....	3%	8%
Total.....	100%	100%

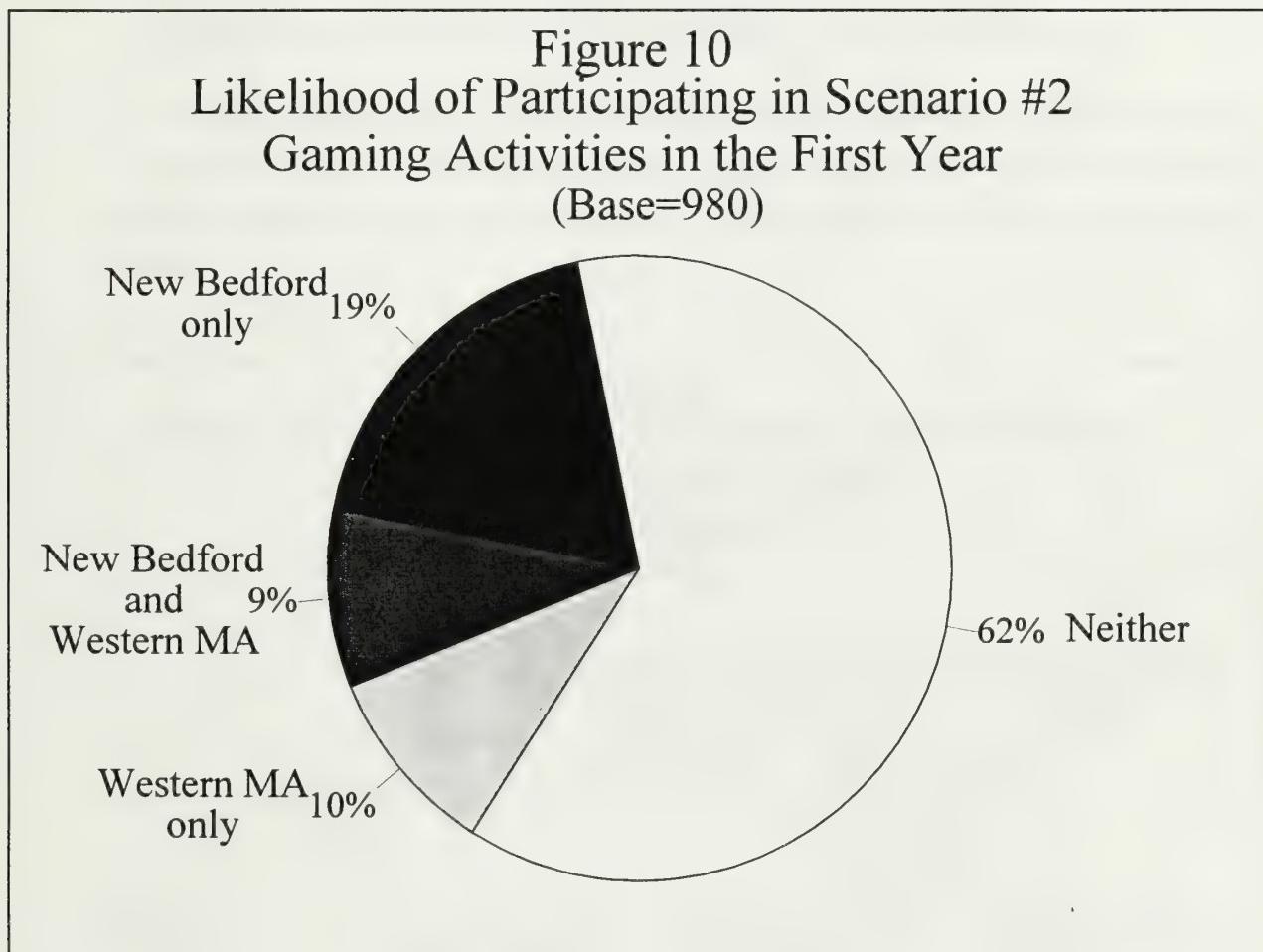
As revealed in Figure 9:

- ◆ Overall, 22% of the survey respondents said that they would spend one to three days at the New Bedford casino, and 12% said they would go for four or more days.
- ◆ About one-third (31%) of those likely to go said they would go for only one day, 36% would go for two to three days, 17% would spend four to nine days at the casino, and 17% expected to spend at least 10 days at the proposed casino.
- ◆ On average, respondents likely to visit the casino said they would take \$190 with them to play on a given day/night.

These responses are very similar to those we obtained in a similar survey in Connecticut prior to the opening of Foxwoods Casino.

2. Scenario #2 (New Bedford and Western Mass. Casinos)

Respondents were asked to suppose that there were casinos in both New Bedford and the Springfield, Massachusetts area, and were then asked about the likelihood of their attending none, one or both of these casinos. Responses are displayed in Figure 10.



As revealed in Figure 10:

- ◆ Almost two-fifths (38%) of the respondents said they would be likely to go to at least one of the casinos.

- ◆ 19% of the respondents said they would probably go only to the New Bedford casino, 10% only to the Western Mass. casino, and 9% said they would go to both.

Figures 11a (all respondents) and 11b (casino attendees only) display the impact that having a Western Massachusetts casino in addition to the New Bedford casino would have on the number of days respondents would go to casinos.

As revealed in Figures 11a - b:

- ◆ 15% of respondents are likely to spend more days at a Massachusetts casino if both, rather than only a New Bedford casino, were built (6% would go to both for a greater total number of days and 9% would only go if there is a Western Mass. casino).
- ◆ 41% of the residents who said that they will go to a casino will spend more total days at the casino(s) if both, rather than only a New Bedford casino, were to be built (16% go to both for a greater total number of days and 25% will only go if there is a Western Mass. casino).

Figure 11a
Impact of Adding Western MA Casino To New Bedford
Casino on Days Spent at Casinos
(All Respondents)
(Base=980)

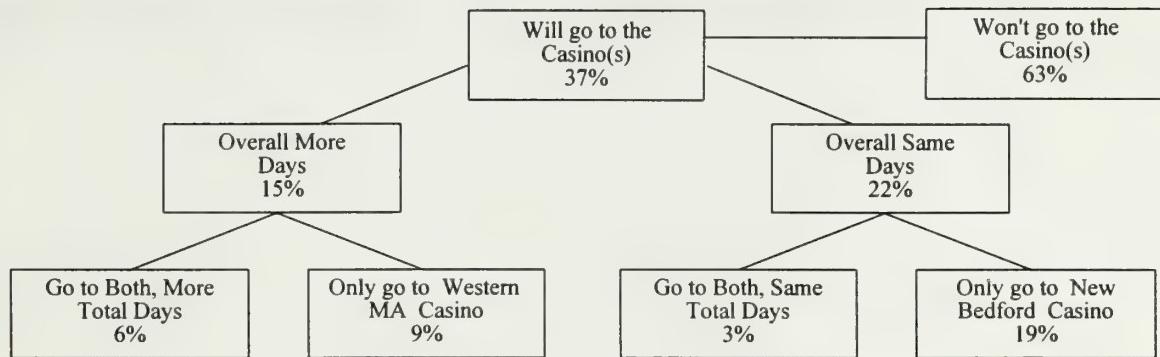
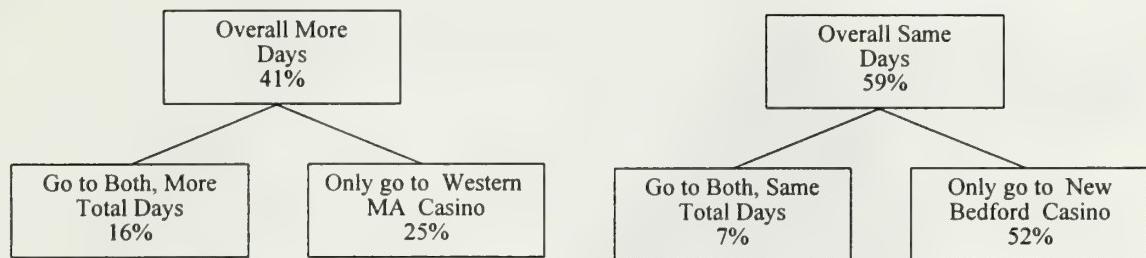


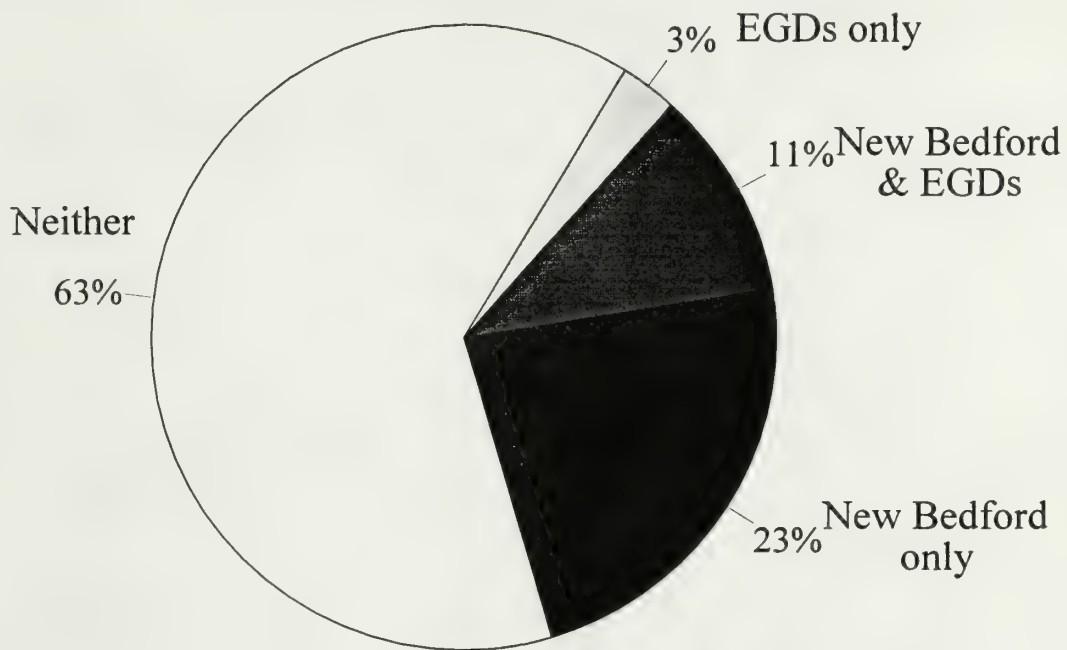
Figure 11b
Impact of Adding Western MA Casino To New Bedford
Casino on Days Spent at Casinos
(Likely Attendees)
(Base=364)



3. Scenario #3 (New Bedford Casino and EGDs)

Respondents were asked to suppose that a casino were built in New Bedford only and that there were electronic gaming devices, like slots and video poker, at the four Massachusetts race tracks, located in Foxboro, Raynham, Revere, and East Boston. They were then asked questions to determine where they would be likely to go. Responses are displayed in Figure 12.

Figure 12
Likelihood of Participating in Scenario #3
Gaming Activities in the First Year
(Base=992)



As shown in Figure 12:

- ◆ 11% said that they would go to several gambling locations;
- ◆ 23% of the respondents said that they would only go to the casino; and
- ◆ 3% said that they would only go to the tracks to play the EGDs.

Respondents were asked a series of questions to determine how often they would go to the tracks to play the EGDs and how much they would take with them to wager on EGDs. Responses are presented in Figure 13 for all respondents and for likely EGD players.

Figure 13
**EGD Participation if New Bedford Casino is Built and
Track EGDs are Installed**

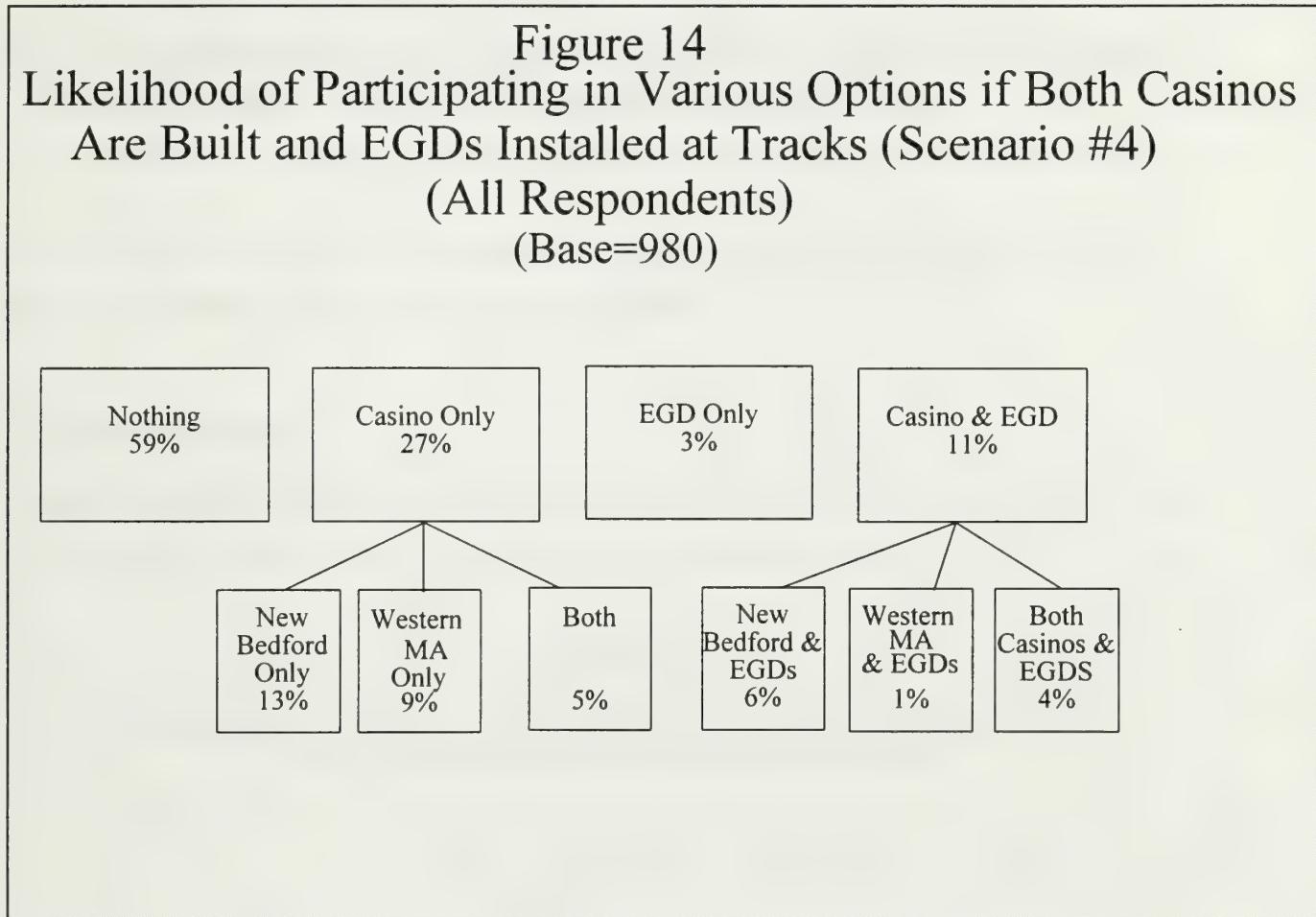
	All Respondents (Base=995)	Likely Attendees (Base=131)
Number Days Expect to Visit in First Year (Mean)	(1.4)	(10.7)
0 days.....	87%	0%
1 day.....	3%	20%
2-3 days.....	5%	35%
4-9 days.....	3%	22%
10+ days.....	3%	23%
Total.....	100%	100%
Average Amount Take To Play (Mean)	(\$15.70)	(\$119.24)
\$0.....	87%	0%
\$5-\$49.....	4%	30%
\$50-\$99.....	3%	25%
\$100-\$199.....	3%	21%
\$200-\$499.....	3%	22%
\$500+.....	0%	2%
Total.....	100%	100%

As shown in Figure 13:

- ◆ While only 6% of the population said that they would go for four or more days to the tracks to play EGDs, 45% of those likely to go at all said that they would do so. Moreover, 23% said that they would go at least 10 days.
- ◆ On average, respondents likely to play EGDs at the track will take \$119 to wager.

4. Scenario #4 (New Bedford and Western Mass. Casinos and EGDS)

Respondents were asked to suppose that all three gambling options were developed (i.e., New Bedford casino, Western Mass. casino, and EGDS installed at the tracks) Figure 14 displays respondents' expected gambling participation under this most intensive scenario.



As revealed in Figure 14:

- ◆ 41% of the respondents surveyed said that they would participate in at least one of the three gambling options, and 59% said that they would not participate many new options at all.
- ◆ 27% said they would participate in casinos only, 11% would go to a casino and tracks for EGDS, and 3% would only go to the tracks for EGDS.

- ◆ Of those going only to casinos, respondents were slightly more likely to go to New Bedford than Western Mass.
- ◆ Those going to one casino and EGDs were much more likely to go to New Bedford than Western Mass.

D. Anticipated Reported Impact of New Gambling Scenarios on Lottery and Charitable Wagering Participation

For each scenario included in the study, participants were asked if they expected to participate less in lottery games and charitable wagering as a result.

1. Lottery Games

Figure 15 displays the percentage of survey respondents who said that they would wager less on each of the four different types of lottery games as a result of each scenario.

Figure 15
Percentage of Lottery Players Who Would Play Lottery Games Less Often Due to New Gambling Scenarios

	Scenario #1		Scenario #2		Scenario #3		Scenario #4	
	%	N	%	N	%	N	%	N
Lotto (Base=539)	3%	17	4%	21	4%	20	5%	25
Instant Games (Base=486)	3%	13	4%	17	3%	16	4%	21
Numbers Game (Base=236)	4%	9	5%	12	4%	10	6%	14
Keno (Base=144)	5%	7	6%	8	5%	7	6%	8

While low, these percentages are much higher than reported in Connecticut prior to Foxwoods, when approximately 1.5% said they would spend less on the lottery due to the casino.

As revealed in Figure 15:

- ◆ Under the greatest gambling expansion (Scenario #4), 4 - 6% of the respondents said they would play each of the different lottery games less often.
- ◆ Under each scenario, Keno (5 - 6%) and Numbers (4 - 6%) would be impacted the most.

Respondents were also asked what percentage they expected to decrease their current lottery wagering due to the different scenarios. Figure 16 (see page 27) displays the extent to which impacted players believe that they would wager less on the lottery due to the four different scenarios.

As shown in Figure 16:

- ◆ Under each scenario, on average impacted respondents said they would wager about 50% less on Lotto and Keno due to the new gambling options.
- ◆ The impact is slightly less for Instant (38% - 48%) and Numbers (35% - 46%) games.

We caution the reader to keep in mind the small number of respondents included in Figure 16.

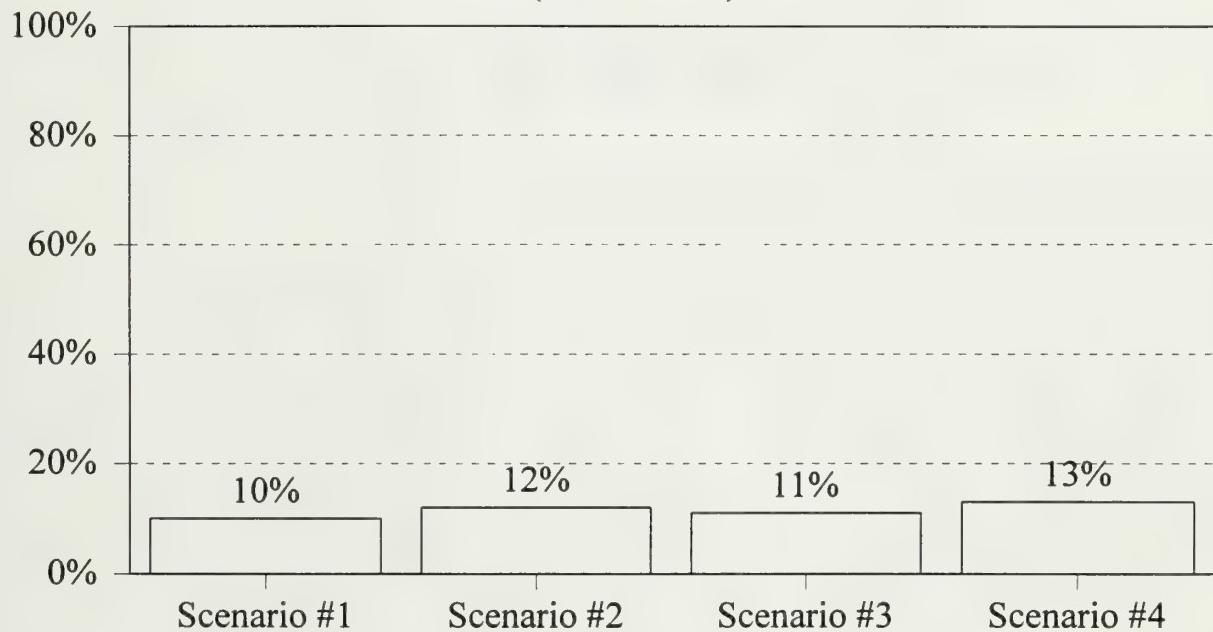
Figure 16
**How Much Less Impacted Lottery Players Expect to Wager
on Lottery Games Due to New Gaming Scenarios**

	Scenario #1		Scenario #2		Scenario #3		Scenario #4	
	%	N	%	N	%	N	%	N
Lotto (Mean)	(54.4%)		(47.4%)		(52.3%)		(45.0%)	
1%-19%.....	29%	5	38%	8	35%	7	44%	11
20%-49%.....	6%	1	5%	1	5%	1	4%	1
50%-99%.....	35%	6	33%	7	30%	6	28%	7
100%.....	29%	5	24%	5	30%	6	24%	6
Total.....	100%	17	100%	21	100%	20	100%	25
Instant (Mean)	(47.9%)		(37.9%)		(47.3%)		(38.1%)	
1%-19%.....	25%	3	44%	7	27%	4	40%	8
20%-49%.....	8%	1	6%	1	13%	2	15%	3
50%-99%.....	50%	6	38%	6	40%	6	30%	6
100%.....	17%	2	13%	2	20%	3	15%	3
Total.....	100%	12	100%	16	100%	15	100%	20
Numbers Game (Mean)	(44.4%)		(35.1%)		(46.0%)		(35.8%)	
1%-19%.....	33%	3	50%	6	40%	4	50%	7
20%-49%.....	11%	1	8%	1	10%	1	14%	2
50%-99%.....	44%	4	33%	4	30%	3	21%	3
100%.....	11%	1	8%	1	20%	2	14%	2
Total.....	100%	9	100%	12	100%	10	100%	14
Keno (Mean)	(50.0%)		(45.0%)		(57.1%)		(51.3%)	
1%-19%.....	14%	1	25%	2	14%	1	25%	2
20%-49%.....	14%	1	13%	1	14%	1	13%	1
50%-99%.....	57%	4	50%	4	43%	3	38%	3
100%.....	14%	1	13%	1	29%	2	25%	2
Total.....	100%	7	100%	8	100%	7	100%	8

2. *Charitable Wagering*

Figure 17 displays the percentage of charitable gaming players that said they would wager less often on charitable fund-raising activities under each scenario.

Figure 17
Percentage of Charitable Game Players
Who Would Play Charitable Games Less Often
Due to New Gaming Scenarios
 (Base=105)



As displayed in Figure 17:

- ◆ The percentage of respondents who partake in charitable wagering who would do so less often ranges from 10% (Scenario #1) to 13% (Scenario #4) depending on the scenario.

Figures 18a (all charitable game players) and 18b (impacted players) display the percentage decrease in impacted players wagering*.

As shown in Figures 18a & b:

- ◆ On average, charitable gaming participants said they would be impacted by 4% to 7% depending on the scenario.
- ◆ On average, impacted players said they would wager 45% to 56% less on charitable wagering depending on the scenario.

**Figure 18a
How Much Less All Charitable Game Players Expect to Wager on Charitable Games
Due to New Gaming Scenarios**

	Scenario #1		Scenario #2		Scenario #3		Scenario #4	
	%	N	%	N	%	N	%	N
(Mean)	(4.3%)		(5.4%)		(5.9%)		(7.0%)	
0%	90%	95	88%	92	90%	94	88%	91
1%-19%	4%	4	5%	5	3%	3	4%	4
20%-49%	1%	1	1%	1	1%	1	1%	1
50%-99%	3%	3	3%	3	4%	4	4%	4
100%	2%	2	3%	3	3%	3	4%	4
Total.....	100%	105	100%	104	100%	105	100%	104

* Please note the very small cell sizes for these data.

Figure 18b
How Much Less Impacted Charitable Game Players Expect to Wager on Charitable Games Due to New Gambling Scenarios

	Scenario #1		Scenario #2		Scenario #3		Scenario #4	
	%	N	%	N	%	N	%	N
(Mean)	(45.0%)		(46.7%)		(55.9%)		(55.8%)	
1%-19%.....	40%	4	42%	5	27%	3	31%	4
20%-49%.....	10%	1	8%	1	9%	1	8%	1
50%-99%.....	30%	3	25%	3	36%	4	31%	4
100%.....	20%	2	25%	3	27%	3	31%	4
Total.....	100%	10	100%	12	100%	11	100%	13

E. Respondent Characteristics

1. All Survey Respondents

Figure 19 (see pages 31 and 32) displays the characteristics of survey respondents. As revealed in Figure 19:

- ◆ 52% of the respondents were female and 48% were male.
- ◆ 35% of the respondents were < 35 years of age, 43% were 35 - 54, and 22% were 55+.
- ◆ 53% of the respondents were married.
- ◆ 34% had not attended college, 21% had some college, 27% had a college degree, and 19% had some type of graduate school degree.
- ◆ 23% had a household income of \$25,000 or less, 40% said \$25,000 - \$50,000, 21% said \$50,000 - \$75,000 and 16% said more than \$100,000.
- ◆ 74% of the respondents were employed. 51% of those unemployed were retired, 14% were looking for work, and 12% were students.
- ◆ 30% of those employed were salaried employees, 25% were professionals, and 15% were self-employed.

Figure 19
Respondent Characteristics

	%	N
Gender		
Male.....	48%	480
Female.....	52%	520
Total.....	100%	1000
Age		
18-24.....	8%	84
25-34.....	27%	268
35-44.....	27%	265
45-54.....	16%	157
55-64.....	11%	109
65+.....	11%	110
Total.....	100%	993
Marital Status		
Married.....	53%	527
Single.....	27%	265
Divorced.....	7%	74
Living in permanent relationship.....	5%	46
Widowed.....	5%	52
Separated.....	3%	25
Total.....	100%	989
Education		
Less than 12 years.....	5%	46
High school diploma.....	25%	246
Technical school.....	4%	38
Some college.....	21%	209
College degree.....	27%	267
Graduate degree.....	19%	186
Total.....	100%	992
Household Income		
< \$15,000.....	10%	83
\$15,000-\$25,000.....	13%	106
\$25,000-\$35,000.....	15%	125
\$35,000-\$50,000.....	25%	211
\$50,000-\$75,000.....	21%	178
\$75,000-\$100,000.....	9%	71
> \$100,000.....	7%	59
Total.....	100%	833

(continued)

Figure 19
Respondent Characteristics

	%	N
Employment Status		
Yes.....	74%	740
No.....	26%	255
Total.....	100%	995
Type of Employment		
Salaried employee.....	30%	222
Professional.....	25%	183
Self-employed.....	15%	109
Hourly worker.....	14%	104
Tradesmen.....	6%	43
Education.....	5%	40
Services.....	4%	29
Military.....	1%	8
Total.....	100%	738
Type of Unemployment		
Retired.....	51%	128
Looking for a job.....	14%	34
Student.....	12%	31
Other.....	23%	58
Total.....	100%	251

2. Comparison of Lottery Players to Non-Players

Figure 20 (see pages 33 and 34) compares the demographic characteristics of lottery players and non-players. As shown in Figure 20:

- ◆ Lottery players were significantly less likely to be 65+ years of age than were non-players (16% vs. 8%).
- ◆ Non-players were significantly more likely than players to have at least a college degree (58% vs. 39%).
- ◆ Non-players were significantly more likely than players to have a household income of less than \$25,000 (29% vs. 19%).

Figure 20
Respondent Characteristics By Lottery Player Status

	Lottery Player		Non-player	
	%	N	%	N
Gender				
Male.....	49%	307	46%	172
Female.....	51%	314	54%	205
Total.....	100%	621	100%	377
Age				
18-24.....	8%	49	9%	35
25-34.....	28%	172	26%	96
35-44.....	28%	175	24%	90
45-54.....	16%	97	16%	59
55-64.....	12%	76	9%	32
65+.....	8%	52	16%	58
Total.....	100%	621	100%	370
Marital Status				
Married.....	57%	350	47%	175
Single.....	24%	145	32%	120
Divorced.....	8%	49	7%	25
Living in permanent relationship.....	5%	29	5%	17
Widowed.....	5%	29	6%	23
Separated.....	2%	13	3%	12
Total.....	100%	615	100%	372
Education				
Less than 12 years.....	4%	26	5%	20
High school diploma.....	30%	183	17%	63
Technical school.....	4%	22	4%	15
Some college.....	24%	150	16%	59
College degree.....	26%	159	29%	108
Graduate degree.....	13%	78	29%	107
Total.....	100%	618	100%	372

(continued)

Figure 20
Respondent Characteristics By Lottery Player Status

	Lottery Player		Non-player	
	%	N	%	N
Household Income				
< \$15,000.....	8%	40	14%	43
\$15,000-\$25,000.....	11%	60	15%	46
\$25,000-\$35,000.....	17%	88	12%	37
\$35,000-\$50,000.....	27%	143	22%	67
\$50,000-\$75,000.....	23%	124	18%	54
\$75,000-\$100,000.....	9%	47	8%	24
> \$100,000.....	6%	30	9%	28
Total.....	100%	532	100%	299
Employment Status				
Yes.....	78%	481	69%	258
No.....	22%	139	31%	115
Total.....	100%	620	100%	373
Type of Employment				
Salaried employee.....	31%	150	28%	72
Professional.....	20%	98	33%	84
Self-employed.....	15%	72	14%	37
Hourly worker.....	16%	77	11%	27
Tradesmen.....	8%	37	2%	6
Services.....	5%	22	3%	7
Military.....	1%	4	2%	4
Total.....	100%	480	100%	257
Type of Unemployment				
Retired.....	51%	71	50%	56
Looking for a job.....	14%	19	13%	15
Student.....	8%	11	18%	20
Other.....	27%	37	19%	21
Total.....	100%	138	100%	112

3. Comparison of Heavy, Moderate, and Light Lottery Players

Figure 21 (see pages 36 and 37) compares the demographic characteristics of heavy, moderate, and light lottery players.

As shown in Figure 21:

- ◆ Heavy players were most often men (58%), while light players were most often women (57%).
- ◆ Light players were more educated: 55% of the light players had a college degree, compared to 36% of the moderate players and 23% of the heavy players.
- ◆ 27% of the moderate players had a household income of < \$25,000 compared to only 14% for the light players and 17% for the heavy players.
- ◆ Heavy players were the most likely to be employed (83% vs. 76%), though the differences were not statistically significant.

Figure 21
Respondent Characteristics By Lottery Player Type

	Lottery Player Type					
	Light (0-\$10)		Moderate (\$10-\$24)		Heavy (\$25+)	
	%	N	%	N	%	N
Gender						
Male.....	43%	106	47%	72	58%	119
Female.....	57%	140	53%	81	42%	85
Total.....	100%	246	100%	153	100%	204
Age						
18-24.....	4%	11	10%	15	11%	23
25-34.....	31%	77	28%	43	24%	48
35-44.....	26%	65	28%	43	31%	63
45-54.....	17%	43	13%	20	16%	32
55-64.....	12%	29	12%	19	12%	25
65+.....	9%	21	8%	13	6%	13
Total.....	100%	246	100%	153	100%	204
Marital Status						
Married.....	59%	144	55%	83	56%	113
Single.....	21%	50	24%	36	29%	58
Divorced.....	7%	17	9%	14	7%	14
Living in permanent relationship.....	4%	10	7%	11	4%	8
Widowed.....	7%	16	3%	5	3%	7
Separated.....	2%	6	2%	3	1%	3
Total.....	100%	243	100%	152	100%	203
Education						
Less than 12 years.....	2%	5	3%	4	7%	14
High school diploma.....	19%	46	31%	48	41%	83
Technical school.....	2%	4	6%	9	4%	8
Some college.....	23%	56	25%	38	25%	52
College degree.....	32%	77	29%	44	19%	38
Graduate degree.....	23%	56	7%	10	4%	9
Total.....	100%	244	100%	153	100%	204

(continued)

Figure 21 (continued)
Respondent Characteristics By Lottery Player Type

	Lottery Player Type					
	Light (0-\$10)		Moderate (\$10-\$24)		Heavy (\$25+)	
	%	N	%	N	%	N
Household Income						
< \$15,000.....	7%	14	9%	12	6%	12
\$15,000-\$25,000.....	7%	13	18%	25	11%	20
\$25,000-\$35,000.....	12%	24	15%	20	23%	42
\$35,000-\$50,000.....	28%	56	29%	40	24%	44
\$50,000-\$75,000.....	24%	48	21%	28	24%	44
\$75,000-\$100,000.....	13%	26	3%	4	9%	17
> \$100,000.....	9%	17	5%	7	3%	6
Total.....	100%	198	100%	136	100%	185
Employment Status						
Yes.....	76%	186	76%	116	83%	169
No.....	24%	60	24%	37	17%	35
Total.....	100%	246	100%	153	100%	204
Type of Employment						
Salaried employee.....	31%	57	37%	43	28%	48
Professional.....	26%	49	16%	18	16%	27
Self-employed.....	15%	27	9%	11	20%	33
Hourly worker.....	13%	24	17%	20	19%	32
Tradesmen.....	4%	7	9%	11	11%	18
Education.....	6%	11	4%	5	2%	3
Services.....	5%	9	5%	6	4%	7
Military.....	1%	1	2%	2	1%	1
Total.....	100%	185	100%	116	100%	169
Type of Unemployment						
Retired.....	53%	32	54%	20	38%	13
Looking for a job.....	13%	8	3%	1	29%	10
Student.....	8%	5	5%	2	12%	4
Other.....	25%	15	38%	14	21%	7
Total.....	100%	60	100%	37	100%	34

F. Effects of Respondent Characteristics on Survey Responses

Data were crosstabulated to determine the impact that respondent characteristics had on key survey responses. A complete set of tables displaying these findings is provided in Attachment A to this report under separate cover. Some of the more interesting findings revealed through this analysis are summarized below.

Gender

- ◆ Under all scenarios, men were more likely than females to express a likelihood of participating in the proposed gambling options.
- ◆ Men were more likely than women to say that they would play the lottery less due to the proposed new gaming options. Under Scenario #2 (6% vs. 3%), Scenario #3 (6% vs. 3%), and Scenario #4 (8% vs. 4%), twice as many men said that they would wager less on the lottery.

Age

- ◆ The younger the respondents, the more likely they were to be interested in each of the proposed gaming options. For example, we found that 71% of the respondents 18 - 24 years of age said that if Scenario #4 were implemented they would participate in at least one of the gambling options. The next most active age group was 25 - 34 years of age, where 46% said that they would do so. For those 65+, the percentage drops to only 19%.
- ◆ Respondents 18 - 24 years of age were much more likely to say that they would play the lottery less if the proposed gambling options were initiated. In fact, 15% (Scenario #1) to 21% (Scenario #4) of those 18 - 24 years of age said they would play the lottery less. For other groups, the percentage was typically 4-5% or less.

Household Income

- ◆ Respondents with a household income of < \$25,000 were the least likely to have played the lottery in the past six months (53% vs. 60% - 70% for all other income levels). Lower participation by those earning < \$25,000 was found for all types of lottery games.

- ◆ Respondents with a household income of \$50,000+ were twice as likely to have gone to a casino in the past year than those with a household income of < \$25,000 (30% vs. 15%).

The reported likelihood of visiting the proposed new gaming options does not vary by income level, except as follows:

- ◆ Of those expecting to go to the proposed New Bedford and/or Western Mass. casino, respondents with an income level of < \$25,000 expected to spend more days at those facilities than other respondents.
- ◆ Under Scenarios #3 and #4, respondents with an income level < \$25,000 expressed the most interest in the EGDs.
- ◆ Respondents with a household income level of < \$25,000 were much more likely to say that they would play the lottery less if the proposed gaming options were instituted. In fact, 8% (Scenario #1) to 11% (Scenario #4) of those in the lowest income level said they would play the lottery less. For other groups, the percentage is typically 1% - 3%.

Education

- ◆ The greater one's education, the less likely one is to have played the lottery or participate in charitable wagering. Those with college or graduate school degrees were least likely to have played each of the four types of lottery games.
- ◆ The greater one's education, the less interest one showed in the proposed new gaming options. Under Scenario #4, 80% of those with a graduate school degree and 63% of those with a college degree said they would not participate in any of the proposed activities. This drops to 50% for those with less education.
- ◆ Participants with no more than a high school education or with a graduate school education were the most likely to decrease lottery wagering due to the proposed new gambling options.

Type of Lottery Player (Heavy, Moderate, or Light)

- ◆ Heavy lottery players were significantly more involved in other gambling activities than light and moderate players.

- ◆ The greater the participation in the lottery, the more likely respondents are to go to the proposed new gaming options, and the more they are likely to wager.
- ◆ Under Scenario #4, 77% of the heavy lottery players were likely to participate in at least one of the new gambling options. This drops to 63% for moderate lottery players and 31% for light lottery players.
- ◆ Under the different scenarios, 6% - 8% of the heavy and moderate players said they would wager less on the lottery due to the new gambling options compared to only 1% - 2% of the light lottery players.

Appendix A

Confidence Range Chart

Chart of 95 Percent Confidence Range (+/-)

Percentage of Result Obtained

	50%	40% or 60%	30% or 70%	20% or 80%	10% or 90%	5% or 95%	1% or 99%
Sample Size							
25	+/- 19.6	+/- 19.2	+/- 18.0	+/- 15.7	+/- 11.8	+/- 8.5	+/- 3.9
50	13.9	13.6	12.7	11.1	8.3	6.0	2.8
75	11.3	11.1	10.4	9.1	6.8	4.9	2.3
100	9.8	9.6	9.0	7.8	5.9	4.3	2.0
175	7.4	7.3	6.9	5.9	4.4	3.3	1.5
200	7.1	7.0	6.5	5.7	4.3	3.1	1.4
250	6.3	6.2	5.8	5.0	3.9	2.7	1.2
300	5.8	5.7	5.3	4.6	3.5	2.5	1.1
400	5.0	4.9	4.6	4.0	3.0	2.2	1.0
500	4.5	4.4	4.1	3.6	2.7	2.0	.9
600	4.1	4.0	3.8	3.3	2.5	1.8	.8
800	3.5	3.4	3.2	2.8	2.1	1.5	.7
1000	3.2	3.1	2.9	2.6	1.9	1.4	.6

For example, if the sample size is 250, and 50% reported 'x,' the actual proportion will be within 6.3 percentage points of 50% (i.e., 43.7% to 56.3%) 95 percent of the time. If 10% reported 'y,' the actual proportion will be within 3.9 percentage points of 10% (i.e., 6.1% to 13.9%) 95 percent of the time.

Appendix B

Survey Instrument

MASSACHUSETTS RESIDENT SURVEY ON LEGAL GAMBLING
(FINAL)
(2/13/96)

TELEPHONE NUMBER: _____

COUNTY:	Barnstable....01	Hampshire ...08
	Berkshire....02	Middlesex....09
	Bristol.....03	Nantucket....10
	Dukes.....04	Norfolk.....11
	Essex.....05	Plymouth.....12
	Franklin.....06	Suffolk.....13
	Hampden.....07	Worcester....14

I. INTRODUCTION AND QUALIFIERS

Preliminary Introduction

Hello, my name is _____ and I am calling on behalf of GSG, an independent research firm. We are conducting a survey to help the State of Massachusetts make important decisions on gambling activities, like the lottery, horse racing and casino gaming. Let me assure you, all of your answers are absolutely confidential.

Qualifiers

- A. Our study requires that we interview only one person who lives in your household. Can I please speak to the person in the household age 18 or older who had the most recent birthday?
1. correct person on the phone (GO TO Q. B)
 2. transfer to correct person (GO TO 2nd INTRODUCTION)
 3. correct person not available (ASK & SCHEDULE CALLBACK)

2nd INTRODUCTION: Hello, my name is _____ and I am calling on behalf of GSG, an independent research firm. We are conducting a survey to help the State of Massachusetts make important decisions on gambling activities, like the lottery, horse racing and casino gaming. Let me assure you, all of your answers are absolutely confidential. Our study requires that we interview only one person who lives in your household. Are you over 18 years of age?

IF NECESSARY

RECORD CALLBACK: Day _____ Time _____
 Day _____ Time _____
 Day _____ Time _____

- B. First, are you, or is anyone in your household employed with:

an advertising agency1
a marketing research or marketing consulting firm	2
any of the media (TV, radio, newspaper or magazines)	3
the lottery or one of the state's horse or dog tracks.....	4
NONE OF THE ABOVE.....	8

IF YES TO ANY OF THE ABOVE OCCUPATIONS (1-4), PLEASE TERMINATE! I am sorry but I have been asked not to include anybody who works for _____ in this study as it may influence their responses. Thanks for your time.

A. PARTICIPATION IN DIFFERENT GAMBLING ACTIVITIES

People wager on many different things, such as the lottery, horse and greyhound races, and casino games. I am going to ask you a few questions about your participation in some of these activities.

- A.1 Have you ever played any of the Massachusetts Lottery games, such as one of the Megabucks type games, one of the Instant games, the Numbers Game, or Keno? (NOTE: MEGABUCKS TYPE GAME ALSO INCLUDES Mass Millions, Mass Cash)

no...2 (GO TO A.3) Yes...1

- A.2 Have you played any of the Lottery games within the past six months?

yes...1 (SET FLAG FOR "LOTTERY")

no....2

- A.3 Have you ever gone to either Suffolk Downs or Foxboro Park and bet on horse races?

no...2 (GO TO A.5) Yes...1

- A.4 Have you done that within the past year?

yes...1 (SET FLAG FOR "HORSES")

no....2

- A.5 Have you ever gone to either Raynham/Taunton or Wonderland Park and bet on greyhound races? (NOTE: RAYNHAM PRONOUNCED "RAIN 'EM")

no...2 (GO TO A.7) Yes...1

- A.6 Have you done that within the past year?

yes...1 (SET FLAG FOR "DOGS")

no....2

- A.7 Have you ever bet real money in Massachusetts on a church or charitable casino night, a church or charitable bingo game, or a charitable pull-tab?

yes...1

no....2 (GO TO A.9)

- A.8 Have you done that within the past year?

yes...1 (SET FLAG FOR "CHARITY")

no....2

- A.9 Have you ever bet money at a casino, such as the Foxwoods Casino or one in Las Vegas or Atlantic City?

no...2 (GO TO SECTION B. page 3) yes...1

- A.10 Have you done that within the past year?

yes...1 (SET FLAG FOR "CASINO")

no....2

B. EXTENT OF PARTICIPATION IN GAMING ACTIVITIES

I am going to ask you a few questions about some of the games you said that you participate in.

IF LOTTERY FLAGGED (IF NOT GO TO NEXT FLAG CHECK)

Megabucks Type Games

B.1 Have you have ever spent money on one of the Megabucks type lottery games? (NOTE: THIS COULD INCLUDE MEGABUCKS, MASS MILLIONS, OR MASS CASH.)

no2 (GO TO B.5) yes ... 1

B.2 Have you played any of these games in past 6 months?

no2 (GO TO B.5) yes ... 1

B.3 Would you say that you purchase tickets for a Megabucks type game:

several times a week.....	5
about once a week	4
about once every 2-3 weeks .	3
about once a month, or.....	2
less than once a month	1
DON'T KNOW	8

B.4 In a typical month, how much money do you usually spend on tickets for Megabucks type games?

\$ _____ DK99998

Instant

B.5 Have you ever spent money on Massachusetts Instant Games, with scratch off tickets and instant winners?

no2 (GO TO B.9) yes ... 1

B.6 Have you played an Instant Game in the past 6 months?

no2 (GO TO B.9) yes ... 1

B.7 How often do you buy Instant Game tickets? Would you say:

every day.....	6
several days a week	5
about once a week	4
about once every 2-3 weeks .	3
about once a month, or.....	2
less than once a month	1
DON'T KNOW	8

B.8 In a typical month, how much money do you usually spend on Instant Game tickets?

\$ _____ DK99998

Numbers Game

B.9 Have you ever spent money on the Mass. Numbers Game?

no2 (GO TO B.13) yes ... 1

B.10 Have you played the Numbers Game in the past 6 months?

no2 (GO TO B.13) yes ... 1

B.11 How often do you play the Numbers Game? Would you say:

every day.....	6
several days a week	5
about once a week	4
about once every 2-3 weeks .	3
about once a month, or.....	2
less than once a month	1
DON'T KNOW	8

B.12 In a typical month, how much money do you usually spend on the Numbers Game?

\$ _____ DK99998

Keno

B.13 Have you ever spent money on Keno in Massachusetts?

no2 (GO TO B.17) yes ... 1

B.14 Have you played Keno in Massachusetts during the past 6 months?

no2 (GO TO B.17) yes ... 1

B.15 How often do you play Keno? Would you say:

every day.....	6
several days a week	5
about once a week	4
about once every 2-3 weeks .	3
about once a month, or.....	2
less than once a month	1
DON'T KNOW	8

B.16 In a typical month, how much money do you usually spend on Keno?

\$ _____ DK99998

IF "HORSES" FLAGGED (IF NOT, SKIP TO NEXT FLAG CHECK)

B.17 Regarding horse racing at Suffolk Downs and Foxboro Park:

a. Which of these tracks have you gone to in the past year?

Suffolk Downs 1 (GO TO B.17b, SKIP B.17c, AND GO TO B.18)
 Foxboro Park, or... 2 (GO TO B.17c)
 Both tracks 3
 DON'T KNOW 8

b. How many times have you gone to Suffolk Downs in the past year?

_____ DK99998

c. How many times have you gone to Foxboro Park in the past year?

_____ DK99998

B.18 When you go to the track, on average about how much do you bet over the course of a typical visit, including your winnings that you later re-bet? (IF AMOUNT < 20.00 ASK RESPONDENT "Does that include money that you won and then re-bet over the whole evening or afternoon?" IF NOT, INSTRUCT RESPONDENT TO INCLUDE Winnings THAT ARE LATER RE-BET)

\$ _____.00 DK 99999

IF "DOGS" FLAGGED (IF NOT, SKIP TO NEXT FLAG CHECK)

B.19 Regarding greyhound racing at Raynham or Wonderland:

a. Which of these tracks have you gone to in the past year?

Raynham	1 (GO TO B.19b, SKIP B.19c, AND GO TO B.20)
Wonderland, or....	2 (GO TO B.19c)
Both tracks	3
DON'T KNOW	8

b. How many times have you gone to the Raynham track in the past year?

DK99998

c. How many times have you gone to the Wonderland track in the past year?

DK99998

B.20 When you go to the dog track, on average about how much do you bet over the course of a typical visit, including your winnings that you later re-bet? (IF AMOUNT GIVEN < 20.00 ASK RESPONDENT "Does that include money that you won and then re-bet over the whole evening or afternoon?" IF NOT, INSTRUCT RESPONDENT TO INCLUDE Winnings THAT ARE LATER RE-BET)

\$ _____.00 DK 99999

IF "CHARITY" FLAGGED: (IF NOT, SKIP TO NEXT FLAG CHECK)

B.21 With regard to charitable wagering: Have you gone to a church or charity Casino Night in the past year, not including bingo?

no2 (GO TO B.25) yes ... 1

B.22 How many times have you attended a church or charity Casino Night in the past year?

DK99998

B.23 On average, how much do you typically budget for betting when you go to a church or charity Casino Night?

\$ _____.00 DK99998

B.24 And when you go to a church or charity Casino Night, do you play:

	Yes	No
a. Blackjack ("21")	1.....	2
b. Poker	1.....	2
c. Roulette.....	1.....	2
d. Baccarat.....	1.....	2
e. Wheel of Fortune.....	1.....	2
f. Any other game.....	1.....	2

B.25 Have you gone to a church or charity Bingo game in the past year?

no2 (GO TO B.31) yes ... 1

B.26 How many times have you gone to a church or charity Bingo game in the past year?

DK99998

B.27 And when you go to Bingo, about how much do you spend, on average, for a typical session, not including food and drinks?

\$ _____.00 DK99998

B.28 Have you purchased charitable pull-tabs (or break-open tickets) in the past year?

no2 (GO TO CASINO FLAG CHECK) yes ... 1

B.29 On how many different occasions did you purchase these in the past year?

_____ DK99998

B.30 On average, how much do you usually spend purchasing such pull-tabs in a year?

\$ _____.00 DK99998

IF CASINO FLAGGED (IF NOT, SKIP TO SECTION C)

B.31 Regarding your visiting casinos:

- a. How many days have you spent visiting the Foxwoods casino in the past year? I am looking for the total number of days, not the number of trips.

_____ (days) DK99998

- b.. How many days have you spent visiting other casinos besides Foxwoods in the past year? Again, I am looking for the total number of days, not the number of trips.

_____ (days) DK99998

B.32 And when you go to a casino, on average how much do you typically budget for betting each day?

\$ _____.00 DK99998

B.33 And when you go, do you play:

	<u>Yes</u>	<u>No</u>
a. Blackjack ("21")	1.....	2
b. Video Poker.....	1.....	2
c. Slot Machines.....	1.....	2
d. Roulette.....	1.....	2
e. Baccarat.....	1.....	2
f. Wheel of Fortune.....	1.....	2
g. Keno.....	1.....	2
h. Craps.....	1.....	2
i. Live Poker	1.....	2
j. Progressive table games...	1.....	2
k. Pai Gow	1.....	2
l. High Stakes Bingo	1.....	2
m. Other.....	1.....	2

C. AWARENESS OF POSSIBLE MASS. CASINOS

C.1. Are you aware of any casinos being considered in the State of Massachusetts?

Yes 1 No 2 (GO TO D.1) DK 8 (GO TO D.1)

- C.2 To the best of your knowledge, where will this casino or these casinos be built? (DON'T READ RESPONSES) (MULTIPLE RESPONSES ARE OK)

New Bedford.....	1
Springfield/Holyoke/Hampden County.....	2
OTHER (specify: _____)	7
DON'T KNOW.....	8

D. LIKELIHOOD AND EXTENT OF PARTICIPATING IN NEW GAMING FACILITIES

New Bedford Casino (Scenario #1)

- D.1 Suppose a casino were built in New Bedford, Massachusetts which is about 60 miles south of Boston, and suppose that this casino offered: black jack tables, crap tables, roulette, high stakes bingo, video poker, and slot machines. How likely would you be to visit this casino during its first year? Would you say:

very likely	4
somewhat likely	3
not too likely, or....	2 (GO TO D.7)
not at all likely	1 (GO TO D.7)
DON'T KNOW	8 (GO TO D.7)

- D.2 How many days do you think that you would spend there in its first year?

_____ DK 99998

- D.3 On average, how much money do you think you would take with you to play on a given day or night?

\$ _____.00 DK 99998

****IF RESPONDENT SAID "NO" TO A.2 AND A.8, GO TO D.7****

- D.4 You said that you have wagered on (ASK FOR GAMES PLAYED: Charitable games (Yes to A.8) and/or Lottery (Yes to A.2) ONLY) in the past year. Do you think that having a casino in New Bedford would cause you to spend less money on:

- D.5 FOR CHARITABLE GAMING: How much less? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	D.4	D.5
	No	Yes
Charitable gaming.....	2.....1.....	%
Lottery games.....	2.....1	(IF YES, ASK D.6, IF NO,) GO TO D.7)

- D.6 Would you spend less on _____? (ASK FOR EACH TYPE OF LOTTERY GAME PLAYED) What percentage? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	No	Yes
(ASK IF YES TO B.2) Megabucks type games....	2....1....	%
(ASK IF YES TO B.6) Instant Games.....	2....1....	%
(ASK IF YES TO B.10) The Numbers Game.....	2....1....	%
(ASK IF YES TO B.14) Keno.....	2....1....	%

NOTE: IF RESPONDENT UNABLE TO GIVE A PERCENTAGE FOR ALL GAMES PLAYED, ASK:

How much less would you spend on lottery games overall? _____%

Casinos in Both Locations (Scenario #2)

D.7 Now, suppose there were also a casino built in the Springfield/Holyoke area in Western Massachusetts in addition to the New Bedford casino. How likely would you be to visit the Western Massachusetts casino during its first year? Would you say:

- very likely4
- somewhat likely3
- not too likely, or....2 (GO TO D.20)
- not at all likely1 (GO TO D.20)
- DON'T KNOW8 (GO TO D.20)

D.8 How many days do you think that you would spend at the Western Mass. casino in its first year?

_____ DK99998

(ASK D.9 ONLY IF D.3 IS NOT ANSWERED)

D.9 On average, how much money do you think you would take with you to play on a given day or night at the Western Mass. casino?

\$ _____.00 DK 99998

ONLY ASK D.10 TO PEOPLE WHO SAID "VERY/SOMEWHAT LIKELY" TO BOTH D.1 AND D.7. OTHERWISE GO TO D.12b

D.10 If casinos were built in both New Bedford and Western Mass., do you think that during the first year, you would most likely:

- just go to the Western Mass. casino, or1 (GO TO D.12a)
- go to both casinos.....2 (GO TO D.11)
- just go the New Bedford casino7 (GO TO D.20)
- DON'T KNOW.....8 (GO TO D.20)

D.11 Do you think you would spend more days at Massachusetts casinos in the first year if there were casinos in both locations rather than just a casino in the location nearest you?

No.....2
Yes.....1 (How many more days? _____)

****IF RESPONDENT SAID "NO" TO A.2 AND A.8, GO TO D.20****

D.12a (ASK ONLY FOR RESPONDENTS WHO SAID "NO" TO ALL GAMES ASKED IN D.4. OTHERWISE, GO TO D.16)

You said you would not wager less on other games as a result of a casino in New Bedford. Would having casinos in both New Bedford and Western Mass. cause you to wager less on other gaming activities.

Yes....1 (GO TO D.13)
No....2 (GO TO D.20)

****IF RESPONDENT SAID "NO" TO A.2 AND A.8, GO TO D.20****

D.12b You said that you have wagered on (ASK FOR GAMES PLAYED: Charitable games (Yes to A.8) and/or Lottery (Yes to A.2) ONLY) in the past year. Do you think that having a casino in Western Mass. would cause you to spend less money on:

D.12c FOR CHARITABLE GAMES: How much less? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	<u>D.12b</u>	<u>D.12c</u>
No	Yes	
Charitable gaming.....	2.....1.....	%
Lottery games.....	2.....1.....	(IF YES, ASK D.12d. IF NO, GO TO D.20)

D.12d Would you spend less on _____? (ASK FOR EACH TYPE OF LOTTERY GAME PLAYED) What percentage? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	<u>No</u>	<u>Yes</u>
(ASK IF YES TO B.2) Megabucks type games....	2....1....	%
(ASK IF YES TO B.6) Instant Games.....	2....1....	%
(ASK IF YES TO B.10) The Numbers Game.....	2....1....	%
(ASK IF YES TO B.14) Keno.....	2....1....	%

NOTE: IF RESPONDENT UNABLE TO GIVE A PERCENTAGE FOR ALL GAMES PLAYED, ASK:

How much less would you spend on lottery games overall? _____%

GO TO D.20

D.13 Would you wager less on: (ASK FOR GAMES PLAYED: Charitable games (Yes to A.8), and/or Lottery (Yes to A.2) ONLY)

D.14 FOR CHARITABLE GAMES: How much less would you wager? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	<u>D.13</u>	<u>D.14</u>
No	Yes	
Charitable Gaming.....	2.....1.....	%
Lottery games.....	2.....1.....	(IF YES, ASK D.15. IF NO, GO TO D.20)

D.15 You said you would spend less on the lottery. Would you spend less on _____? (ASK FOR EACH TYPE OF LOTTERY GAME PLAYED) What percentage? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	<u>No</u>	<u>Yes</u>
(ASK IF YES TO B.2) Megabucks type games....	2....1....	%
(ASK IF YES TO B.6) Instant Games.....	2....1....	%
(ASK IF YES TO B.10) The Numbers Game.....	2....1....	%
(ASK IF YES TO B.14) Keno.....	2....1....	%

NOTE: IF RESPONDENT UNABLE TO GIVE A PERCENTAGE FOR ALL GAMES PLAYED, ASK:

How much less would you spend on lottery games overall? _____%

GO TO D.20

****IF RESPONDENT SAID "NO" TO A.2 AND A.8, GO TO D.20****

D.16 (ASK ONLY FOR RESPONDENTS WHO SAID "YES" TO ANY GAME ASKED IN D.4, OTHERWISE GO TO D.20)

You said you would wager less on other gambling options as a result of a new casino in New Bedford. Would having casinos in both New Bedford and Western Mass. cause you to wager even less on these other gaming activities than just having a casino in New Bedford?

Yes....1 (GO TO D.17)
No.....2 (GO TO D.20)

D.17 Would having both casinos cause you to wager less than you do now on: (ASK FOR GAMES PLAYED: Charitable games (Yes to A.8) and/or Lottery (Yes to A.2) ONLY)

D.18 FOR CHARITABLE GAMES: How much less would you wager than you do now? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	<u>D.17</u>	<u>D.18</u>
	No	Yes
Charitable Gaming.....	2.....1.....	_____ %
Lottery games.....	2.....1.....	(IF YES, ASK D.19, IF NO, GO TO D.20)

D.19 Would you spend less than you do now on _____? (ASK FOR EACH TYPE OF LOTTERY GAME PLAYED) What percentage? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	<u>No</u>	<u>Yes</u>
(ASK IF YES TO B.2) Megabucks type games....	2...1.....	_____ %
(ASK IF YES TO B.6) Instant Games.....	2...1.....	_____ %
(ASK IF YES TO B.10) The Numbers Game.....	2...1.....	_____ %
(ASK IF YES TO B.14) Keno.....	2...1.....	_____ %

NOTE: IF RESPONDENT UNABLE TO GIVE A PERCENTAGE FOR ALL GAMES PLAYED, ASK:

How much less would you spend on lottery games overall? _____ %

New Bedford Casino and Electronic Gaming Devices (Scenario #3)

D.20 Now, I am going to give you a new situation. Suppose there were a casino in New Bedford only and there were electronic gaming machines, like slots and video poker games, at the four Massachusetts race tracks, located in Foxboro, Raynham, Revere, and East Boston. (RAYNHAM PRONOUNCED "RAIN 'EM")

How likely would you be to go play the electronic gaming machines at one of the race tracks during the first year? Would you say:

very likely4
somewhat likely3
not too likely, or....2 (GO TO E.1)
not at all likely1 (GO TO E.1)
DON'T KNOW8 (GO TO E.1)

D.21 How many times do you think that you would go to a track to play these gaming machines in the first year?

_____ DK99998

D.22 On average, how much money do you think you would take with you to play on a given day or night?

\$ ____ .00 DK 99998

FOR RESPONDENTS WHO DID NOT SAY THEY WERE "VERY" OR "SOMEWHAT" LIKELY TO D.1, GO TO D.24

D.23 Do you think that these visits to the tracks would be mostly:

in addition to, or1
instead of your visits to the	
New Bedford casino?2
DON'T KNOW.....8

****IF RESPONDENT SAID "NO" TO A.2 AND A.8, GO TO D.35****

D.24 (ASK ONLY FOR RESPONDENTS WHO SAID "NO" TO ALL GAMES ASKED IN D.4, FOR RESPONDENTS WHO SAID "YES" TO ANY GAMES ASKED IN D.4, GO TO D.28; FOR RESPONDENTS WHO DID NOT SAY THEY WERE "VERY" OR "SOMEWHAT" LIKELY TO D.1, GO TO D.32)

You said you would not wager less on other games as a result of a casino in New Bedford. Would having a New Bedford casino and gaming machines at the race tracks cause you to wager less on these other gaming activities?

Yes....1 (GO TO D.25)
No....2 (GO TO D.35)

D.25 What type of games would you wager less on? Would you wager less on: (ASK FOR GAMES PLAYED: Charitable games (Yes to A.8), and/or Lottery (Yes to A.2) ONLY)

D.26 FOR CHARITABLE GAMES: How much less? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	<u>D.25</u>	<u>D.26</u>
	No	Yes
Charitable Gaming.....	2.....1.....	%
Lottery games.....	2.....1	(IF YES, ASK D.27. IF NO GO TO D.35)

D.27 Would you spend less on _____? (ASK FOR EACH TYPE OF LOTTERY GAME PLAYED) What percentage? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	<u>No</u>	<u>Yes</u>
(ASK IF YES TO B.2) Megabucks type games....	2...1....	%
(ASK IF YES TO B.6) Instant Games.....	2...1....	%
(ASK IF YES TO B.10) The Numbers Game.....	2...1....	%
(ASK IF YES TO B.14) Keno.....	2...1....	%

NOTE: IF RESPONDENT UNABLE TO GIVE A PERCENTAGE FOR ALL GAMES PLAYED, ASK:

How much less would you spend on lottery games overall? _____%

GO TO D.35

****IF RESPONDENT SAID "NO" TO A.2 AND A.8, GO TO D.35****

D.28 (ASK ONLY FOR RESPONDENTS WHO SAID "YES" TO ANY GAME ASKED IN D.4)
 You said you would wager less on other games as a result of a casino in New Bedford. Would having both the casino and gaming machines at the race tracks cause you to wager even less on other gaming activities?

Yes....1 (GO TO D.29)
 No....2 (GO TO D.35)

D.29 Would having both of these cause you to wager less than you do now on: (ASK FOR GAMES PLAYED: Charitable games (Yes to A.8), and/or Lottery (Yes to A.2) ONLY)

D.30 FOR CHARITABLE GAMES: How much less would you wager than you do now? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	<u>D.29</u>	<u>D.30</u>
No Yes		
Charitable Gaming.....	2.....1.....	%
Lottery games.....	2.....1	(IF YES, ASK D.31. IF NO, GO TO D.35)

D.31 Would you spend less than you do now on _____? (ASK FOR EACH TYPE OF LOTTERY GAME PLAYED) What percentage? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	<u>No</u>	<u>Yes</u>
(ASK IF YES TO B.2) Megabucks type games....	2....1....	%
(ASK IF YES TO B.6) Instant Games.....	2....1....	%
(ASK IF YES TO B.10) The Numbers Game.....	2....1....	%
(ASK IF YES TO B.14) Keno.....	2....1....	%

NOTE: IF RESPONDENT UNABLE TO GIVE A PERCENTAGE FOR ALL GAMES PLAYED, ASK:

How much less would you spend on lottery games overall? _____%

GO TO D.35

****IF RESPONDENT SAID "NO" TO A.2 AND A.8, GO TO D.35****

D.32 You said that you have wagered on (ASK FOR GAMES PLAYED: Charitable games (Yes to A.8) and/or Lottery (Yes to A.2) ONLY) in the past year. Do you think that having a casino in New Bedford and gaming machines at the tracks would cause you to spend less money on:

D.33 FOR CHARITABLE GAMING: How much less? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	<u>D.32</u>	<u>D.33</u>
No Yes		
Charitable gaming.....	2.....1.....	%
Lottery games.....	2.....1	(IF YES, ASK D.34, IF NO, GO TO D.35)

D.34 Would you spend less on _____? (ASK FOR EACH TYPE OF LOTTERY GAME PLAYED) What percentage? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	No	Yes	%
(ASK IF YES TO B.2) Megabucks type games.....	2....1....		
(ASK IF YES TO B.6) Instant Games.....	2....1....		%
(ASK IF YES TO B.10) The Numbers Game.....	2....1....		%
(ASK IF YES TO B.14) Keno.....	2....1....		%

NOTE: IF RESPONDENT UNABLE TO GIVE A PERCENTAGE FOR ALL GAMES PLAYED, ASK:

How much less would you spend on lottery games overall? ____ %

New Bedford Casino, Springfield/Holyoke Casino, and Electronic Gaming Devices (Scenario #4)

ONLY ASK D.35 IF RESPONDENT WAS VERY/SOMEWHAT LIKELY TO GO TO TRACK FOR ELECTRONIC GAMING WITH NEW BEDFORD CASINO OPEN ("4" OR "3" TO D.20) AND SAID THAT THEY WOULD GO TO THE WESTERN MASS CASINO IF THERE WAS A NEW BEDFORD CASINO (VERY/SOMEWHAT LIKELY TO D.7). OTHERWISE GO TO E.1.

D.35 Now, suppose that we've got gaming machines installed at the four Massachusetts race tracks, a casino in New Bedford and a casino in Western Mass. How likely would you be to visit the casino in Western Mass? Would you say:

- very likely4
- somewhat likely3
- not too likely, or....2 (GO TO E.1)
- not at all likely1 (GO TO E.1)
- DON'T KNOW8 (GO TO E.1)

D.36 Would your visits to the Western Mass. casino mostly be:

- in addition to, or1
- instead of your visits to the
New Bedford casino or race tracks?2
- DON'T KNOW.....8

IF RESPONDENT SAID "NO" TO A.2 AND A.8, GO TO E.1

D.37 (ONLY ASK RESPONDENTS WHO SAID "NO" TO D.24 OR D.28 OR "NO" TO ALL GAMES ASKED IN D.32. IF YES TO ANY, GO TO D.41)
You said you would not wager less on other games as a result of a casino in New Bedford and gaming machines at the tracks. Would also having a casino in Western Mass. cause you to wager less on other gambling activities?

Yes....1 (GO TO D.38) No.....2 (GO TO E.1)

D.38 What type of games would you wager less on? Would you wager less on: (ASK FOR GAMES PLAYED: Charitable games (Yes to A.8), and/or Lottery (Yes to A.2) ONLY)

D.39 FOR CHARITABLE GAMES: How much less? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	D.38		D.39
	No	Yes	
Charitable Gaming....	2....1....		%
Lottery games.....	2....1		(IF YES, ASK D.40. IF NO, GO TO E.1)

D.40 Would you spend less on _____? (ASK FOR EACH TYPE OF LOTTERY GAME PLAYED) What percentage? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	No	Yes	
(ASK IF YES TO B.2) Megabucks type games....2....1....	_____	%	
(ASK IF YES TO B.6) Instant Games.....2....1....	_____	%	
(ASK IF YES TO B.10) The Numbers Game.....2....1....	_____	%	
(ASK IF YES TO B.14) Keno.....2....1....	_____	%	

NOTE: IF RESPONDENT UNABLE TO GIVE A PERCENTAGE FOR ALL GAMES PLAYED, ASK:

How much less would you spend on lottery games overall? _____ %

GO TO E.1

****IF RESPONDENT SAID "NO" TO A.2 AND A.8, GO TO E.1****

D.41 (ONLY ASK RESPONDENTS WHO SAID "YES" TO D.24 or D.28 or "YES" TO ANY GAME ASKED IN D.32)

You said you would wager less on other games as a result of a new casino in New Bedford and having gaming machines at the tracks. Would also having a casino in Western Mass. cause you to wager even less on other gaming activities?

Yes....1 (GO TO D.42)
No....2 (GO TO E.1)

D.42 Would having the casinos and gaming machines at the tracks cause you to wager less than you do now on: (ASK FOR GAMES PLAYED: Charitable games (Yes to A.8), and/or Lottery (Yes to A.2) ONLY)

D.43 FOR CHARITABLE GAMES: How much less than you do now? (PROBE: For example, would you say 10% less? 50% less? 100%?)

D.42	D.43
No	Yes
Charitable Gaming....2....1....	_____ %
Lottery games.....2....1	(IF YES, ASK D.44. IF NO, GO TO E.1)

D.44 Would you spend less than you do now on _____? (ASK FOR EACH TYPE OF LOTTERY GAME PLAYED) What percentage? (PROBE: For example, would you say 10% less? 50% less? 100%?)

	No	Yes	
(ASK IF YES TO B.2) Megabucks type games....2....1....	_____	%	
(ASK IF YES TO B.6) Instant Games.....2....1....	_____	%	
(ASK IF YES TO B.10) The Numbers Game.....2....1....	_____	%	
(ASK IF YES TO B.14) Keno.....2....1....	_____	%	

NOTE: IF RESPONDENT UNABLE TO GIVE A PERCENTAGE FOR ALL GAMES PLAYED, ASK:

How much less would you spend on lottery games overall? _____ %

E. DEMOGRAPHICS

I just have a few last questions for classification purposes?

E.1 Into which of these age groups do you fit?

18-24 .. 1	45-54 4
25-34 .. 2	55-64..... 5
35-44 .. 3	65 or over . 6
	REFUSED 8

E.2 What is your current marital status? Are you:

married	1
living in a permanent relationship ..	2
separated	3
divorced	4
widowed	5
single	6
REFUSED	8

E.3 What is your highest level of education? Is it:

less than 12 years	1
high school diploma	2
technical school	3
some college	4
college degree	5
graduate degree	6
REFUSED	8

E.4 Are you currently employed?

yes .. 1 (GO TO E.5)
no2 (GO TO E.6)

E.5 Which of these categories best describes your employment?

self-employed	1
salaried employee (such as manager, salesman or accountant)	2
professional (doctor, lawyer, CPA)	3
tradesmen (carpenter, foreman, machinist) ..	4
military	5
services (nurse, police)	6
hourly worker (laborer, typist)	7
education (teacher, counselor)	8

GO TO E.7

E.6 Are you currently:

looking for a job.....	1
retired.....	2
a student.....	3
OTHER.....	4

E.7 What is your home zip code? _____

E.8 Into which of the following categories does your total household income fall?

< \$15,000	1
\$15,000 to \$25,000 ..	2
\$25,000 to \$35,000 ..	3
\$35,000 to \$50,000 ..	4
\$50,000 to \$75,000 ..	5
\$75,000 to \$100,000 ..	6
more than \$100,000 ..	7
REFUSED	8

E.9 Record gender:

male1 female2

I just want to confirm that I reached you at _____ (phone number).
My supervisor validates a percentage of my calls so could you please
give me your first name. _____

Thank you very much for taking the time to talk with me. You have been
very helpful.

